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Department of Agriculture and Stock, Brisbane

Botany Bulletin No. XVIII.

Contributions to the : Queensland Flora :

By J. F. BAILEY

Government Botanist and Director of Brisbane Botanic Gardens

AND

C. T. WHITE

Assistant Government Botanist

By Authority:

ANTHONY JAMES CUMMING, Government Printer, Brisbane

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Prefatory Notice.

SINCE the issue of Botany Bulletin XIV. in October, 1896, to the present date only three others have been issued, and these almost entirely devoted to special subjects: No. XV. records a large number of additions to our Freshwater Algæ, No. XVI. mainly deals with the Fungi collected by Dr. Pritzel in Queensland in 1902, and No. XVII. with the additions to our ferns published by Dr. Domin in his "Prodromus einer Farnflora Queenslands." Nearly all additions to our Flora since the inception of the *Queensland Agricultural Journal* in July, 1897, have been recorded in its pages; it has, however, been considered that the "Contributions to the Flora of Queensland" were unsuitable for the Journal, and it has been decided to again issue Botany Bulletins as material becomes available. Records of fresh weeds which make their appearance and are likely to spread, and other matters of agricultural interest, will be continued to be published in the *Queensland Agricultural Journal*.

Contributions to the Queensland Flora.

Order DILLENIACEÆ.

TETRACERA, Linn.

T. Wuthiana, *F. v. M.* To the description in "Queensland Flora," p. 10, add :—Ripe carpels strigose-hirsute, about 3 lines long; seeds black, glossy, arillus yellow, fringed.

Hab. : Dunk Island, *E. J. Banfield*; Johnstone River, *Rev. N. Michael.*

Order GUTTIFERÆ.

GARCINIA, Linn.

G. Cherryi, *Bail.* To the description in "Queensland Flora," p. 103, add :—Sepals very coriaceous, as broad or broader than long, 2 lines diam.; petals coriaceous, broadly obovate, 5-6 lines long.

Hab. : Good flowering specimens have been collected in the Atherton district by *H. W. Mocatta* (received through the Director of Forests); at the time of writing the description in the "Queensland Flora" flowers in the bud stage only were available.

Order MALVACEÆ.

SIDA, Linn.

S. acuta, *Burm.* Fl. Ind. 147. Undershrub. Leaves nearly glabrous, 2-3 in. long, linear-lanceolate, acute, serrate, shortly petiolate; stipules subulate, longer than the petiole. Peduncles as long as the petiole, articulate in the middle. Calyx-tube subglobose, sepals triangular, acute. Petals yellow, twice the length of the sepals. Carpels 5-9, rugose, awned. Wight Ic. t. 95; *S. carpinifolia,* Linn. f. non Bourg., Hook. Fl. Brit. India I. 323.

Hab.: Croydon, *J. A. C. Wilson*; Townsville, *E. W. Bick*; Gordonvale, *E. Jarvis.*

A common weed of most tropical countries.

The nearest ally of this species is *S. rhombifolia,* Linn., from which it differs principally in the shorter peduncles and in the carpels being rugose and constantly awned.

Order STERCULIACEÆ.

RULINGIA, *R. Br.*

R. salvifolia, *Benth.* To the description in "Queensland Flora," p. 146, add :—Capsule about 3 lines diam., beset with subulate bristles, readily dehiscent.

Hab. : Springbrook (Macpherson Range), *C. T. White.*

Order RUTACEÆ.

CORREA, Sm.

C. Lawrenciana, *Hook.*, Journ. Bot. i. 254; *Benth.*, Fl. Austr. i. 355. A shrub, usually tall and rather slender, sometimes growing into a small tree; branches more or less tomentose. Leaves petiolate, from ovate to oblong, obtuse, in some specimens $\frac{1}{2}$-1 in. long, in others 1-2 in. long or even more, flat, glabrous and often somewhat punctate above, tomentose beneath. Flowers 1-3 together, axillary or terminal, shortly pedicellate. Calyx tomentose, truncate with 4 small teeth. Petals tomentose outside, united the greater part of their length into a cylindrical corolla of $\frac{3}{4}$-1 in. long. Stamens exerted; filaments all filiform from the base or equally and very slightly dilated. Cocci 4 lines long, slightly punctate and transversely veined. *C. ferruginea,* Backh.; Hook. Ic. Pl. 3.

Hab. : Springbrook (Macpherson Range), *C. T. White.* Previously recorded from Tasmania, Victoria, and New South Wales.

MELICOPE, Forst.

M. Fareana, *F. v. M.* To the description in "Queensland Flora," p. 197, add :—Cocci about 3 lines long, nearly erect, the valves coriaceous and transversely wrinkled; sepals and petals persistent, the latter extending beyond the cocci.

Hab. : Kairi (North Queensland), *E. W. Bick.*

Order CELASTRINEÆ.

SIPHONODON, Griff.

S. pendulum, *Bail.* To the description in "Queensland Flora," p. 262, add :—Flowers in lateral panicles shorter than the leaves. Calyx irregularly 5-partite, larger lobes 1 line long; petals $2\frac{1}{2}$ lines long; filaments very broad (almost as broad as long). Disk lobed.

Hab. : Stannary Hills, *Dr. T. L. Bancroft.*

Plate 1.

Ceratopetalum apetalum, var. microphyllum, *n. var.*

Order SAPINDACEÆ.

NEPHELIUM, Linn.

N. semiglaucum, *F. v. M.*, **var. acutifolium,** *F. v. M.* (sub. Cupania), Fragm. ix. (1875), p. 98. Differs from the normal form in the leaves being more or less acute, generally longer, more lanceolate, and not always so prominently glaucous beneath.

This was not recorded in the "Queensland Flora"; however, a short time back specimens from the Queensland Herbarium, forwarded to Prof. L. Radlkofer, Munich, were determined by him as belonging here. On looking through our Sapindaceæ we have found a number of specimens of it collected in various localities in tropical Queensland. Dr. Radlkofer described it as a distinct species under the name *Guioa acutifolia* [in Sitzb. Math. Phys. Acad. Muench. ix. (1879) 608]; but, following the classification and nomenclature adopted in the "Queensland Flora" and "Comprehensive Catalogue of Queensland Plants," we place the plant as here given. It extends to New Guinea and Malaya.

Order SAXIFRAGEÆ.

CERATOPETALUM, Sm.

C. apetalum, *D. Don,* **var. microphyllum,** *n. var.* (Plate 1). A large tree, glabrous; branchlets angular. Leaves 1-foliolate. Leaflet coriaceous articulate on a petiole of 2-3 lines, lanceolate or ovate-lanceolate, obtuse or obtusely acuminate, bluntly serrulate, strongly reticulate, $\frac{3}{4}$-$1\frac{3}{4}$ in. long, 5-8 lines broad. Flowers in corymbose cymes or panicles, terminal or in the upper axils. Calyx-lobes (only seen in fruit) about $\frac{1}{4}$ in. long, purplish, strongly coriaceous. Petals absent. Fruit without the wings about 2 lines diameter, the adnate calyx-tube smooth not ribbed; when crushed the fruits give off a powerful odour of Coumarin characteristic of the species.

Hab.: Springbrook (Macpherson Range), *C. T. White.*

This new variety differs from the normal form in its much smaller leaflets on shorter petioles, the leaves except for their unifoliolate character resemble very closely those of *C. gummiferum.* The normal form is common in New South Wales

Plate 2.

LEPTOSPERMUM FLAVESCENS, VAR CITRATUM, *n. var.*

extending to near the Queensland border, and is known locally as Coachwood on account of the suitability of the timber for coach-building purposes.

The above full description is given as the typical species has not yet been recorded from Queensland.

Order MYRTACEÆ.

LEPTOSPERMUM, Forst.

L. flavescens, *Sm.,* **var. citratum,** *Bail. f. & White,* Ql. Agric. Jl. vol. 5, n.s., p. 161 (Plate 2). Differs from the normal form in the leaves possessing a very pleasant citron odour.

Hab. : Abundant at Springbrook (Macpherson Range), *C. T. White.*

The plant forms a compact bushy shrub or small tree about 20 ft. high, with a light-brown fibrous bark ; the citron scent is powerful and may prove of considerable commercial value, and the plants are worthy of cultivation for this purpose.

L. Liversidgei, *Baker & Smith,* Journ. & Proc. Roy. Soc. N.S.W. vol. 29 (1905), p. 124 (Plate 3). *L. flavescens,* Sm., *var. citriodorum,* Bail. Queens. Agric. Journ. vol. 15 (1905), p. 781.

Hab. : Coastal swamps of Southern Queensland.

This plant was first referred to by F. M. Bailey as a variety of *L. flavescens,* and placed by him in the "Queensland Flora" as a form of the variety *obovatum* ; later on he described it as a new variety under the name of *citriodorum* ; a few months later Baker & Smith described a new citron-scented *Leptospermum* from New South Wales as *L. Liversidgei.* There seems little doubt of the identity of their plant with that previously described as *L. f. var. citriodorum.* This differs considerably from the common forms of *L. flavescens,* and as a citron-scented variety has now been found presenting no essential differences from the typical species we think it better that the two plants should be placed as here given. The accompanying plates should aid in their recognition.

RHODAMNIA, Jack.

R. trinervia, *Blume,* **var. glabra,** *Maid. & Betche,* Proc. Linn. Soc. N.S.W. vol. 24 (1899), p. 146. Quite glabrous.

Plate 3.

LEPTOSPERMUM LIVERSIDGEI, *Baker & Smith.*

The two lateral nerves much less prominent than in the typical form and closer to the margin forming an intramarginal vein.

Hab. : Springbrook (Macpherson Range), *C. T. White.* A very common shrub.

This variety presents a very different appearance from the normal form. It was first collected in the Northern Rivers District of New South Wales.

EUGENIA, Linn.

E. parvifolia, *C. Moore,* Journ. & Proc. Roy. Soc. N.S.W. vol. 27 (1893), p. 85. A large tree but flowering as a tall compact bushy shrub ; quite glabrous. Leaves ovate-lanceolate, 1-1½ in. long, tapering to a long but obtuse point. Flowers white, small in short racemes, terminal or more rarely in the upper axils, generally in pairs on the slender pedicels ; calyx-lobes and petals 5, the calyx much attenuated towards the base. Fruit red, pyriform, but flat at the top almost turbinate, about ½ in. long ; one-seeded.

Hab. : Kin Kin (North Coast line), *W. D. Francis* ; Fraser Island, *W. R. Petrie.*

(The species was first collected on the Richmond River in Northern N.S.W.)

The specimens forwarded by Mr. Francis were good flowering ones and agree well with the description and those from New South Wales. Those from Fraser Island bore only a few rather poor fruits, but seem to belong here.

E. cyanocarpa, *F. v. M.,* Fragm. ix., p. 146 (1875). A small tree flowering as a shrub, quite glabrous. Leaves lanceolate, acuminate, narrowed at the base, 2-5½ in. long. Flowers in trichotomous pedunculate cymes, either terminal or opposite at the base of new shoots ; peduncle branches and pedicels slender ; calyx broadly urceolate, nearly 2 lines long, lobes 4, short. Stamens numerous with slender, filaments. Style slender, about ½ in. long. Fruit globular, 5-6 lines diam., purplish-blue when ripe.

Hab. : Rockingham Bay, *Dallachy* ; Kin Kin (North Coast line), *Francis & White* ; Mooloolah River (*Tryon & White*) ; Springbrook (Macpherson Range), *C. T. White.*

MARSDENIA FRASERI, *Benth.*

The nearest ally of *E. cyanocarpa* among Queensland species is *E. oleosa*, F. v. M., from which it principally differs in the broadly urceolate calyx and globular fruit. We have a specimen in the Queensland Herbarium from Rockingham Bay and labelled *E. oleosa, var. cyanocarpa*, by Mueller. Maiden and Betche [Proc. Linn. Soc. N.S.W. vol. 29 (1904), pp. 740-2] record this species from several localities in Northern New South Wales.

Order ASCLEPIADEÆ.

TYLOPHORA, R. Br.

T. floribunda, *Benth.* To the description in "Queensland Flora," p. 1006, add :—Follicles 3-angled, somewhat boat-shaped, acuminate, 4-5 in. long.

Hab.: Kin Kin (North Coast line), *Francis & White*; Atherton District, *E. W. Bick.*

MARSDENIA, R. Br.

M. Fraseri, *Benth.* (Plate 4.) To the description in "Queensland Flora," p. 1009, add :—Follicles almost orbicular or broader than long, about $1\frac{1}{2}$ in. diam.

Hab.: Lake Cootharaba, *Keys & Wedd*; Noosa, *H. A. Longman.* Fairly common in Moreton Bay, where fruiting specimens have several times been recently gathered by different collectors.

Order LAURINEÆ.

ENDIANDRA, R. Br.

E. Lowiana, *Bail.* To the description in "Queensland "Flora," p. 1307, add :—Panicles axillary, numerous. Flowers small, perianth-tube thick, lobes short. Stamens, the 3 inner ones alone perfect, alternating with 3 staminodia.

Hab.: Kin Kin (North Coast line), *Francis & White.*

Order PROTEACEÆ.

EMBOTHRIUM, Forst.

E. Wickhami, *F. v. M.*, **var. pinnata,** *Maid. & Betche*, Proc. Linn. Soc. N.S.W. xxxv. (1910). p. 795. Leaves including the slender petiole 9-18 in. long, pinnate with 7-9 leaflets : leaflets lanceolate, generally 4-5 in. long and $\frac{3}{4}$ in. broad in the middle, tapering at both ends, pinnately obliquely veined, only the

Plate 5.

AGATHIS ROBUSTA, *C. Moore*; A. PALMERSTONI, *F. v. M.*; A. MICROSTACHYA, *n. sp.*

principal veins conspicuous. The rhachis between the leaflets in most leaves is slightly winged towards the top, frequently uniting the three uppermost leaflets at the base, and thus showing a tendency to relapse into a pinnatifid leaf. This tendency is distinctly shown in the floral leaves; the first leaves below the inflorescence are frequently simple, next to the simple leaf follows occasionally a leaf cleft to or nearly to the rhachis into two lobes, and then follow generally abruptly the pinnate leaves. *Maiden*, Forest Flora of N.S.W. vol. 5, pp. 91-93, Pl. 167.

Hab.: Springbrook (Macpherson Range), *C. T. White.*

This variety was first collected in the Dorrigo, New South Wales, and the present specimens agree well with the above description of Maiden and Betche. It presents a very different appearance to the typical species which is common in some of our northern scrubs; like that, it forms a large timber-tree.

Order CONIFERÆ.

AGATHIS, Salisb.

A. microstachya, *n. sp.* (Plates 5 and 6.) Black Kauri Pine. A large tree. Leaves 1½-2 in. long, ½ in. broad, not very coriaceous, tapering into a very short petiole, usually oblique. Male amenta small, nearly globular, 2-3 lines long, sessile or shortly pedunculate. Fruit-cones and scales similar to those of *A. robusta.* Seeds deeply emarginate at the apex, about ½ in. long, wing ¾ in. long.

Hab.: High lands of ranges in the Cairns, Atherton, and Herberton districts, *H. W. Mocatta*, District Forest Inspector. (Received through the Director of Forests, Brisbane.)

The present plant differs from the two previously known Queensland species, *A. robusta*, C. Moore, and *A. Palmerstoni*, F. v. M., in its smaller leaves, very small male amenta, and deeply emarginate seeds.

In a letter addressed to the Director of Forests, Brisbane (Mr. N. W. Jolly), Mr. Mocatta states: "Black Kauri Pine grows to a large tree equal to *A. Palmerstoni.* There is very little difference in general appearance of growth. In its sapling stage the Black Kauri shows a smooth bark with large black patches, but in its more mature state the bark becomes very rough and scaly from root to branches. When scales fall or

AGATHIS MICROSTACHYA, *n. sp.*
AGATHIS ROBUSTA, *C. Moore.*

are pulled off, the first skin shows bluish black. The species is well distributed on the high lands of the various ranges in the Cairns, Atherton, and Herberton districts, but seldom grows on the low lands."

Illustrations of *A. robusta* and *A. Palmerstoni* are given for purposes of comparison.

Plate 7.

AGATHIS PALMERSTONI, *F. v. M.*

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Contributions to the : Queensland Flora :

By J. F. BAILEY

Late Government Botanist and Director of Brisbane Botanic Gardens

AND

C. T. WHITE

Acting Government Botanist

(Issued 30th April, 1917.)

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Contributions to the Queensland Flora.

Order MENISPERMACEÆ.

CARRONIA, F. v. M.

Sepals many, imbricate, the inner ones larger. Petals minute, flat, abruptly unguiculate, opposite the inner sepals. Stamens 6, free. Carpels 6, with a short entire stigma. Tall climber with pinnately veined leaves.—*F. v. M. Fragm. Phytogr. Austr.* ix. 171.

C. multisepalea, *F. v. M. l.c.* A tall woody climber. Branches and underside of the leaves tomentellous. Leaves coriaceous, ovate or oblong lanceolate, reticulate, and shining above, 4-7 in. long; the petiole abruptly swollen at the apex. Flowers small in a very narrow and spike-like panicle. Sepals ovate or orbicular. Petals glabrous. Ovary sericeous.

Hab.: Kin Kin (North Coast Line)—*Francis and White*; Blackall Range, *C. T. White.*

Both our specimens are in leaf only. Mr. J. H. Maiden, however, who kindly compared them with those from Northern New South Wales, writes:—"The specimens from Blackall Range agree with ours; in those from Kin Kin the leaves are uniformly narrower than any of our New South Wales specimens, otherwise the same."

Order TERNSTRŒMIACEÆ.

TERNSTRŒMIA, Linn.

Peduncles lateral, recurved, 2-bracteate below the flower. Sepals 5. Petals 5, connate at the base. Stamens numerous; anthers glabrous. Ovary 2-3 celled; style simple, often wanting; stigma broadly 2-3 lobed or subentire; ovules 2 in each cell, rarely 1 or 3-6, pendulous from the apex. Glabrous evergreen trees or shrubs with coriaceous entire or crenate-serrate leaves.

A genus of about 50 species, natives of Tropical America and Asia, with one species in Australia.

T. Cherryi (*Bail.*), *E. D. Merril in lit.* Mr. E. D. Merrill, Botanist, Bureau of Science, Manilla, Philippine Islands, writes (10-10-1916):—"In looking over Botany Bulletin XVIII., I noted that you mention *Garcinia Cherryi*, Bail., which reminded me of a note I wrote up in 1913 and inserted in our herbarium with a specimen received from F. M. Bailey. It is as follows:—'*Ternstræmia Cherryi* (Bail.) *comb. nov. Garcinia Cherryi*, Bail. Queensl. Flora, p. 103.' The type I have not

seen ; but a specimen received collected at Atherton by E. W. Bick, in June, 1913, is unmistakably a *Ternstrœmia* in all respects. The genus is apparently new to Australia."

In looking through a large series of specimens of this plant we find it agrees well with *Ternstrœmia*, and seems closely allied to the Philippine *T. Toquian*, F. Villar.

Order MALVACEÆ.

MALVA, Linn.

* **M. nicaensis,** *All.* Annual, beset with spreading hairs. Stems ascending. Leaves with 3-7 rounded, crenate, more or less deeply cut lobes. Flowers blue or purple in axillary clusters on unequal pedicels ; bracts attached half-way up the calyx ; calyx lobes broadly ovate, ciliate, almost concealing the ripe carpels ; petals twice as long as the calyx, notched, ciliate on the claws. Carpels 8-10, glabrous or puberulent.

Hab. : Cambooya (Darling Downs), *Ramsay Bros.* A native of the Mediterranean region ; has previously been recorded as naturalised in some of the Southern States.

Order TILIACEÆ.

ELÆOCARPUS, Linn.

E. coorangooloo, *n. sp.* (Plate I.) "Coorangooloo," Upper Barron River (J. F. B.). Medium-sized tree with a smooth bark. Branchlets lenticellate. Leaves glabrous, ovate-lanceolate or obovate, 3-4 in. long, $1\frac{1}{4}$-$2\frac{1}{4}$ in. broad, on a petiole of 1-$1\frac{1}{2}$ in., prominently reticulate on both sides, especially on the under surface, and foveolate in the axils of the principal nerves, margins crenate-serrate or almost entire. Racemes crowded, 2-3 in. long. Flowers small ; pedicels 2 lines long ; sepals 2 lines long with a few scattered hairs on the back, the inner face pubescent at the base and with a prominent midrib ; petals 2 lines long divided to about the middle into several linear lobes, the entire portion shortly pubescent. Stamens puberulous, filaments short, anthers linear. Disk crenulate, very pubescent. Ovary glabrous. Fruit 6-8 lines in diam.—*Elæocarpus sp.*, J. F. Bail., Queens. Agric. Jl. Vol. V. (1899), p. 393.

Hab. : Martintown ; *J. F. Bailey* ; Atherton District, *H. W. Mocatta* ; received through the Director of Forests, Brisbane (Mr. N. W. Jolly).

Among Queensland species the nearest approach to the present is *E. ruminatus*, F. v. M., from which, however, it differs in the venation of the leaves, the sepals and petals not being silvery-silky, and in the glabrous ovary.

ELAEOCARPUS COORANGOOLOO, *Bail. f., et. White.*

(Slightly reduced.)

Order RUTACEÆ.

BOSISTOA, F. v. M.

B. transversa, *n. sp.* (Plate II.). A small or medium-sized tree. Branchlets lenticellate. Leaves 2-3 foliolate or rarely reduced to 1 leaflet; leaflets glabrous, shortly petiolulate, coriaceous, ovate-lanceolate, often somewhat oblique at the base, 2-3½ in. long, ¾-1½ in. broad, prominently reticulate on both sides, especially on the under. Flowers in terminal corymbose panicles (sometimes appearing axillary by the elongation of the growing shoot). Calyx pubescent, small. Petals pubescent, ovate 2 lines long. Filaments glabrous, flattened, 1 line long. Ovary and lower half of style densely hirsute. Cocci covered with a short dense tomentum, obliquely obovoid, transversely wrinkled, 7 lines long, 5 lines broad.

Hab.: Kin Kin and Walvi, *Francis and White* (growing in company with *B. sapindiformis*); Eumundi, *F. M. Bailey.*

From *B. sapindiformis*, F. v. M., it differs in its smaller and fewer leaflets, smaller flowers, and transversely wrinkled cocci.

Order LEGUMINOSÆ.

TRIFOLIUM, Linn.

***T. arvense,** *Linn.* Hare's-foot Clover. A slender erect annual pubescent with soft hairs. Leaflets linear-oblong to oblanceolate, minutely denticulate at the summit; stipules narrow, reddish, acuminate. Flowers small in globular at length oblong pedunculate heads of a delicate lavender colour; calyx-tube ovoid, villous, teeth bristle-like, plumose, longer than the tube; corolla shorter than the calyx.

Hab.: Naturalised about Toowoomba, *E. W. Bick.* A native of Europe, Western Asia, and North America.

Order COMBRETACEÆ.

MACROPTERANTHES, F. v. M.

M. Leichhardtii, *F. v. M.* To the description in the "Queensland Flora," page 570, add:—Calyx and bracteoles densely silky-tomentose (becoming glabrescent in fruit); calyx-teeth short, broadly triangular. Petals white, densely sericeous, especially on the outer surface, 1½ lines long; stamens 10, filaments slender, 2 lines long; anthers dorsifixed, broadly ovate.

Hab.: Common in the scrubs on the Nogoa River at Gindie, *C. T. White.*

BOSISTOA TRANSVERSA, *Bail., f., et White.*

(Slightly reduced.)

Order MYRTACEÆ.

ANGOPHORA, Cav.

A. melanoxylon, *R. T. Baker*, Proc. Linn. Soc. N.S.W., Vol. 25 (1900), p. 84, Pl. 2. A medium-sized tree. Branchlets glabrous or minutely pubescent, with or without bristles. Leaves numerous, mostly under 2 in. long, rarely exceeding $2\frac{1}{2}$ in., and under $\frac{1}{2}$ in. broad, lanceolate, or cordate at the base with rounded auricles, sessile or subsessile, opposite, and decussate, dark green on the upper side, paler on the lower, which is occasionally minutely pubescent, lateral veins fine, parallel, indistinct on the upper surface. Flowers in dense terminal corymbs or short panicles; calyx 2-4 lines diam., turbinate, glabrous or with a few bristles, teeth acute. Petals white, imbricate, shortly or abruptly acuminate. Fruiting calyx 4-6 lines long, often as broad at the top, prominently ribbed.

Hab.: Charleville, *E. W. Bick.*

R. T. Baker l.c. describes the bark as less fibrous than in either *A. intermedia* or *A. subvelutina*, and the timber of a very dark brown (in fact, almost black) colour. It is very foliaceous, and the leaves are readily eaten by stock.

Maiden and Betche, in the recently issued "Census of New South Wales Plants," p. 145, reduce this species to a variety of *A. intermedia*, DC.

MYRTUS, Linn.

M. inophloia, *n. sp.* (Plate III.) A densely pubescent shrub with a loose thready bark, leaves $\frac{3}{4}$-$1\frac{1}{4}$ in. long, $\frac{1}{2}$-$\frac{3}{4}$ in. broad, ovate, acuminate, apiculate, those on the young shoots pubescent on both sides, those on the older branchlets glabrous or glabrescent and glossy on the upper surface. Pedicels axillary, solitary, slender, 1-flowered. Flowers small. Bracteoles at the apex of the pedicel linear or lanceolate, longer than the calyx, pubescent. Calyx pubsecent, tube 1 line long, lobes 5, ovate, acuminate, about as long as the tube. Petals rotund, fringed, $1\frac{1}{2}$ lines. Ovary 2-celled. Fruit not seen.

Hab.: Eumundi, *J. F. Bailey*; Blackall Range, *C. T. White.*

Among the Queensland species the present one should be placed among those with the flowers on axillary solitary pedicels and 2-celled ovaries; from all other species occurring here it differs in its densely pubescent character.

EUGENIA, Linn.

E. subopposita, *Bail.* To the description in the "Queensland Flora," page 2004, add :—Fruit oval-oblong, 6 lines long, 4 lines diam., 1-seeded."

Hab.: Hull River, *J. M. Kenny*; *E. J. Banfield.*

MYRTUS INOPHLOIA, *Bail., f., et. White.*

(Natural size.)

Order CUCURBITACEÆ.

CUCUMIS, Linn.

***C. Anguria,** *Linn.* West Indian Gherkin. Annual, hirsute. Stems angular, rough. Leaves villous-hispid beneath, usually deeply 5-lobed, sometimes 3 or 7 lobed, lobes obovate or spathulate, denticulate. Flowers small, on slender peduncles. Fruit ovoid, muricate with rigid spinules.

Hab.: Naturalised about Townsville, *C. T. White.* Supposed to be a native of the West Indies.

Order COMPOSITÆ.

HELICHRYSUM, Gaertn.

H. obcordatum, *F. v. M., var.* **major,** *Benth.*, Fl. Austr. III. 632. An erect shrub, 2-5 ft. high, branches cottony-white or nearly glabrous. Leaves broadly obovate, obtuse, narrowed into a short petiole, under ½ in. long, glabrous above, pale or white underneath. Flower-heads small and numerous in a dense terminal corymb. Involucre narrow, about 2 lines long, straw-colcured, the bracts concave and loosely imbricate, without coloured tips. Florets about 12, a few of the outer ones female. Achenes angular, glabrous or pappillate. Pappus-bristles not at all or scarcely thickened upwards.

Hab.: Stanthorpe, *H. Wright.* This variety is recorded from New South Wales and Victoria. The normal form occurs in Tasmania.

*SYNEDRELLA, Gærtn.

Heads small, heterogamous, radiate; ray-florets 1-2 seriate, fertile, ligule 2-3 toothed, yellow; disk-florets, hermaphrodite, fertile, tubular, limb 4 toothed. Involucre ovoid or oblong, bracts few, outer 1 or 2 usually foliaceous; receptacle small. Achenes of the ray dorsally compressed, 2-winged, wings lacerate; achenes of the disk narrower, compressed, or triquetrous, often muricate, the angles of both terminating in spines. Annual, branched, pubescent or villous herbs. Leaves opposite, petioled, toothed.

***S. nodiflora,** *Gærtn.* An erect dichotomously branched herb. Stem and branches terete, glabrous. Leaves ovate-lanceolate, shortly petiolate, serrate, scaberulous, 3-nerved. Heads sessile, axillary, and terminal; inner involucral bracts, linear-lanceolate, shining. Achenes slender, black, spines 2-3 times as long, erect, stout.

Hab.: Naturalised about Cairns, *E. W. Bick.* A native of Tropical America; for some years naturalised in India and Malay Archipelago; has now made its appearance in Tropical Queensland.

Order GODENOVIEÆ.

SCÆVOLA, Linn.

S. enantophylla, *F. v. M.* To the description in the "Queensland Flora," page 907, add :—" Drupe obovate, 6-7 lines long, 4 lines broad, with a succulent exocarp, the endocarp bony, rugose, elongate-obovate, 5-6 lines long, $1\frac{1}{2}$ lines broad."

Hab. : Barron River, *Dr. T. L. Bancroft*; Atherton, *C. Hampton*; Mourilyan, (*Coll.* ?). This plant was received several times recently from the Atherton District as suspected of causing deaths among cattle, but examination by Agricultural Chemist for poisonous properties gave negative results.

Order MYRSINACEÆ.

ARDISIA, Linn.

A. racemosa, *R. T. Baker.* Proc. Linn. Soc. N.S.W., Vol. 27 (1912), page 380, Pl. 16. A small tree with a smooth grey bark, quite glabrous. Leaves measuring up to 5 in. long and 1 in. broad, but usually smaller, ovate-elliptical, thin in texture, pale-coloured on the underside, edges slightly crenulate or sometimes undulate. Lateral veins fine and oblique. Oil glands numerous, fairly distinct. Flowers in short axillary, occasionally lateral, racemes. Pedicels about 4 lines long. Sepals 5, valvate, $\frac{1}{2}$ line long, marked with dark purple spots, glabrous, edges scarious. Petals 5, $1\frac{1}{2}$ lines long, imbricate and contorted in the bud, acuminate, glabrous, spotted, the lower half of the inner surface densely ferruginous-pubescent. Stamens opposite the petals; filaments very short; anthers glabrous, cordate-sagittate with recurved points. Style subulate. Fruit red, globular, 4 lines diameter.

Hab. : Springbrook (Macpherson Range), *C. T. White.* Locally known as "Short-grainer."

R. T. Baker l.c., who did not describe the fruit, and our specimens being in fruit only, kindly compared them and found them to agree well with his type material from Northern New South Wales.

Order BORAGINEÆ.

*ECHIUM, Linn.

Calyx deeply divided. Corolla with a broad, open mouth to the tube, and an oblique limb, with 5 erect or scarcely spreading, unequal teeth or lobes. Stamens protruding from the tube and unequal in length. Style 2-cleft. Nuts wrinkled. Coarse biennials or half-shrubby perennials with blue or purple flowers.

A rather numerous genus in the Canary Islands and Western and Southern Africa, with a few European and West Asiatic species.

* **E. plantagineum,** *Linn.* Called "Patterson's Curse" or "Blue Weed" in New South Wales. A biennial, covered with stiff spreading hairs seated on tubercles. Stems erect or ascending, branched. Radical leaves in a rosette, large ovate, petiolate; stem-leaves sessile, acuminate, widened and cordate at the base. Flowers large, purplish, in long racemes forming a spreading panicle. Calyx deeply cut into 5 lanceolate, rough-villous lobes; corolla campanulate, about 3 times as long as the calyx, with an oblique limb. Stamens unequal, anthers purple. Style long, bifid. Carpels subtriangular, tuberculate.

Hab.: Naturalised about Yandilla (Darling Downs), *A. R. Lomax.*

A native of Europe; for some years past recorded as a bad weed in the Southern States; has now made its appearance in Queensland

Order LAURINEÆ.

PERSEA, Gærtn.

P. Baileyana, *F. v. M.* To the description in the "Queensland Flora," page 1310, add:—"Berry seated and slightly sunk in the much enlarged calyx-tube, oblong, 5 lines long, calyx-tube under the fruit 4-5 lines diam."

Hab.: Fraser Island, *W. R. Petrie* (Sept., 1916). The bark, like that of the Black Sassafras (*Cinnamomum Oliveri*), possesses a powerful fragrance.

Order EUPHORBIACEÆ.

DISSILIARIA, F. v. M.

D. baloghioides, *F. v. M.* To the description in the "Queensland Flora," page 1450, add:—"Male flowers several together on a short peduncle; pedicels slender, hirsute; perianth segments 6, pubescent; stamens numerous, filaments slender. Female flowers 3-merous, pubescent, sepals about 1 line long, broadly triangular; petals 2 lines long; ovary densely pubescent, styles 1 line long, but much curved in the older flowers."

Hab.: Kin Kin, *Francis and White.*

Order ORCHIDEÆ.

LIPARIS, Rich.

L. Simmondsii, *Bail.* To the description in the "Queensland Flora," page 1521, add:—"Flowers rich dark purple in terminal racemes; pedicels 5-6 lines long; dorsal sepal narrow-lanceolate, 5 lines long, lateral sepals broader, 4 lines long; petals about the same length,

narrow-linear. Labellum about as long as the lateral segments, adnate to the base of the column, the lamina minutely denticulate, 3 lines broad in the middle, apex bluntly triangular."

Hab. : Described from specimens cultivated by Mr. R. Illidge from plants collected at Buderim Mountain, where it is fairly common in the "scrubs" along the various streams.

The supposition by F. M. Bailey (Bot. Bull. III., page 18, and "Queensland Flora," page 1521) that this species was closely allied to the Asiatic *L. atropurpurea* is thus borne out by the flowers. The finding of a purple-flowered form among our native species is very interesting.

Order JUNCACEÆ.

XEROTES, Banks.

X. glauca, *R. Br.*, Prod. 260 ; Benth. Fl. Austr. VII. 105. A low tufted species, the leafy base usually very short, but sometimes lengthening out, especially in the females, to 5 or 6 in., and densely covered by the leaf-sheaths. Leaves narrow-linear, spreading mostly 2-3 in., but sometimes nearly twice that length, straight or slightly twisted, sheathing bases more or less split into filaments. Male inflorescence simple or shortly branched from the lower clusters, the flowers small in globular clusters along the rhachis. Perianth under 1 line long, pale-coloured, divided to near the middle into 6 equal lobes. Stamens all inserted on the lobes below the middle. Female heads much larger, closely sessile or very shortly pedunculate amongst the upper leaves. Perianth segments ovate-lanceolate, $1\frac{1}{2}$ to nearly 2 lines long. Capsule scarcely exceeding the perianth, slightly marked with transverse wrinkles.

Hab. : Hills about Chermside (near Brisbane), *Longman and White.*

The species has previously been recorded from New South Wales, Victoria, Tasmania, and South Australia, and a variety from West Australia.

JUNCUS, Linn.

J. homalocaulis, *F. v. M.*; Benth. Fl. Austr. VII. 128. A small tufted perennial species. Stems rarely exceeding 6 in., slender, the inflorescence but little branched. Leaves from the base of the stem very narrow and almost terete, shorter than the stem. Flowers 2-6 together in clusters or heads sessile or pedunculate towards the end of the stem, with a subulate leafy bract under the lowest cluster, the flowers sessile in the clusters, and the clusters few to each stem. Perianth segments rigid, acutely acuminate, about 3 lines long, the inner ones rather shorter. Stamens 6. Style divided nearly to the base. Placentas parietal, not very prominent. Capsule rather shorter than the perianth. Seeds ovoid, without tails.—Ewart, Pl. Indig. Vic., Vol. 2, Pl. 86.

Hab. : Stanthorpe, *H. Wright.* A common species in the Southern States.

Order NAIADACEÆ.

POTAMOGETON, Linn.

P. tricarinatus, *F. v. M.* Submerged leaves almost all decayed before flowering, lanceolate, semi-translucent, few-nerved. Upper (floating) leaves coriaceous, elliptical, $1\frac{1}{4}$-$1\frac{3}{4}$ in. long, $\frac{3}{4}$-1 in. broad, 15-17 nerved, petioles $\frac{3}{4}$-$1\frac{1}{4}$ in. long, channelled. Stipules soon decaying, $\frac{3}{4}$-$1\frac{1}{4}$ in. long, acute, semi-translucent, but the veins not prominent. Peduncles moderately stout, $1\frac{1}{4}$-$1\frac{3}{4}$ in. long. Spikes dense-flowered, $\frac{3}{4}$-$1\frac{1}{2}$ in. long. Perianth segments orbicular. Fruit $1\frac{1}{2}$ lines long, compressed, the central keel and lateral ridges prominent, carinated, and turberculated, central keel extending to the depression.—A Benn., Journ. Bot. XXV. (1887), 177 (*nomen nudum*); F. v. M. and A. Benn., Journ. Bot. XXX. (1892), 229 (descript.), Bail. Queens. Fl., page 1709; Comprenhs. Cat. Queens. Pl., p. 583, fig. 563; Ascherson and Graebner, Potamogetonaceæ in. Engl. Pflanzenr. IV., 11, p. 54; *P. natans*, Benth. (non. Linn.) Fl. Austr. VII. 170; Bail. Queens. Fl., p. 1709.

Hab.: A common species in pools in Southern Queensland. We have no Queensland specimens of the true *P. natans* in our herbarium.

Order CYPERACEÆ.

CYPERUS, Linn.

C. laevigatus, *Linn.*; Benth. Fl. Austr. VII. 263. Rhizome usually creeping, stems 6 in. to $1\frac{1}{2}$ ft. high, enclosed at the base in 2 or 3 brown sheaths, one of which is often produced into a short erect rigid leaf. Spikelets 6-12 together or sometimes only 2 or 3 in a sessile cluster apparently lateral, the longest of the 2 involucral bracts being erect and continuous with the stem. Spikelets lanceolate or broadly linear, flat, rather thick, with a longitudinal groove on each face, 4-5 or rarely 6 lines long, 2 lines broad, with about 30 flowers, the rhachis not winged, Glumes closely imbricate, obtuse, broad, and concave, the keel scarcely prominent, nerves very faint. Style 2-cleft. Nuts broadly obovate or orbicular, flattened, the broad inner face next the rhachis mostly about half the length of the glume.

Hab.: Maroochydore, *C. T. White.* (Field Naturalists' Club Excursion, Easter, 1916.)

A cosmopolitan species; in Australia previously recorded from New South Wales, South Australia, and West Australia.

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By C. T. WHITE

Government Botanist

(Issued 7th January, 1918.)

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1917

MISSOURI BOTANICAL GARDEN
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PREFATORY NOTICE.

It will be noticed that in the present Botany Bulletin a slight departure has been made from those previously issued, a brief Latin diagnosis preceding the full English description of all new species. I am not a believer in the rule adopted at the last International Botanical Congress that descriptions of all new species should be regarded as invalid unless accompanied by a Latin diagnosis, and cannot see the necessity for it when the description is supplemented by an illustration. The rule has its advantages, however, and is often a great help, saving one the trouble of ploughing through a mass of material in a foreign language. For the sake of uniformity if for no other reason, I prefer to give the descriptions of new species as here set forth, at least until the rule is rescinded at a future international or other conference.

Contributions to the Queensland Flora.

Order ANONACEÆ.

POLYALTHIA, Blume.

P. Michaelii, sp. nov. (after Rev. Norman Michael).

Arbor, ramulis glabris ; foliis ovato-oblongis acuminatis breviter petiolatis utrinque glabris basi rotundatis ; floribus lateralibus fasciculatis pedicellatis, pedicellis minute pubescentibus ; calyce puberulo, sepalis obsoletis ; petalis inæqualibus extus tenuiter pubescentibus intus glabris interioribus majoribus ; bacca magna subglobosa stipitata.

A tree, branchlets glabrous. Leaves glabrous, subcoriaceous ovate-oblong, acuminate, base rounded, upper surface shining, main nerves 7-9 pairs, length 3-8 in. (7·5-20 cm.), breadth $1\frac{3}{4}$-3 in. (4·5-7·5 cm.) ; petiole 2 lines (4 mm.). Flowers pedicellate, in sessile fascicles from the axils of fallen leaves : pedicels minutely pubescent, bracteate at the base, 3 lines (7 mm.) long. Calyx puberulous ; sepals obscure. Petals thinly pubescent outside, glabrous inside (dark purple ?) ; outer petals linear, 5-6 lines (1·2-1·4 cm.) long, $1\frac{1}{2}$-2 lines (3-4 mm.) broad ; inner petals 8-10 lines (1·7-2 cm.) long, 2-3 lines (4-7 mm.) broad. Carpels stipitate, sub-globose or ovoid-globose, $1\frac{1}{2}$ in. (4 cm.) long. Seed hard, woody, rugose, with a smooth shining testa.

Hab. : Johnstone River, *Rev. N. Michael.*

P. Michaelii is well distinguished from the two other described Queensland species by its larger fruits and by the inner petals being markedly larger than the outer. Among extra-Australian species its nearest ally seems to be *P. simiarum*, Benth. et Hook.

Order TILIACEÆ.

ARISTOTELIA, L'Her.

A. pubescens, sp. nov.

Arbor, ramulis pubescentibus ; foliis breviter petiolatis ovato-lanceolatis basi cordatis apice acuminatis supra tenuiter pubescentibus subtus dense pubescentibus subsericeis ; pedunculis 6-7 mm. longis molliter pubescentibus, pedicellis pedunculis similibus, floribus quinquesepalis et quinquepetalis, sepalis pubescentibus linearibus acutis 9 mm. longis, petalis 1·7 cm. longis marginibus ciliatis intus costa inferne hirsuta ; staminibus 14 (semper ?), antheris pubescentibus ; ovario dense hirsuto.

A tree, branchlets densely pubescent. Leaves on a petiole of $1\frac{1}{2}$ lines (3 mm.), ovate-lanceolate, cordate at the base, gradually tapering into an acuminate apex, $2\frac{1}{2}$-$3\frac{1}{2}$ in. (6·5-8·5 cm.) long, $\frac{3}{4}$-$1\frac{1}{4}$ in. (2-3 cm.) wide, thinly pubescent on the upper surface the lower surface densely pubescent with long brown almost silky hairs. Peduncles 3 lines (6-7 mm.) long, softly pubescent, bearing several flowers ; pedicels about as long as the peduncle, softly pubescent. Sepals 5, pubescent, linear, acute, 4 lines (9 mm.) long. Petals 5, toothed at the apex, on the inner face with a prominent midrib in the lower half covered

POLYALTHIA MICHAELII
A—Leaf, upper surface.
B—Leaf, under surface.
C—Carpel.

with long white hairs, margins ciliate, 8 lines (1·7 cm.) long. Stamens 14 in the flowers examined, but probably varying in number ; filaments slender, glabrous in the lower portion, 4 lines (9 mm.) long ; anthers pubescent, 1 line (2 mm.) long. Ovary densely pubescent with long white hairs ; style pubescent at the base, glabrous in the upper portion. Fruit not seen.

Hab. : Johnstone River, *H. G. Ladbrook.*

ARISTOTELIA PUBESCENS.
Flowering shoot (natural size).
A—Sepal, outer and inner face.
B—Petal, inner face.
C—Stamen.
(A, B, C enlarged.)

From the previously described Queensland species *A. pubescens* is easily distinguished by its densely pubescent character. From the same locality Messrs. Michael and Ladbrook forwarded specimens of *A. megalosperma*, F. v. M.

Order RUTACEÆ.

MELICOPE, Forst.

M. melanophloia, sp. nov.

Arbor parva vel mediocris, ramulis glabris; foliis petiolatis glabris; unifoliolatis; foliolo ovato-lanceolato breviter petiolulato sub-coriaceo; paniculis floribundis terminalibus vel in axillis superioribus; sepalis tomentosis minutis; petalis albis tomentosis ovato-lanceolatis; staminibus 8, filamentorum marginibus sericeo-ciliatis; ovario dense hirsuto; carpidiis tomentosis, valvis extus transverse costatis.

A small or medium-sized tree with a dark-coloured (almost black) bark; glabrous except the inflorescence. Leaves unifoliate, on a petiole of 5-7 lines (1·1-1·5 cm.); leaflet subcoriaceous, lanceolate or ovate-lanceolate, average size 4 in. (10 cm.) long and 1½ in. (3·8 cm.) wide, tapering at the base into a short petiolule, apex bluntish. Panicles terminal or occasionally in the upper axils, nearly as long as the leaves, bearing numerous white or cream-coloured flowers. Sepals 4, small, tomentose. Petals 4, with a prominent midrib; woolly tomentose especially on the outer surface, ovate-lanceolate, 3½ lines (8 mm.) long. Stamens 8, shorter than the petals, filaments flattened, ciliate along the margins with long silky hairs. Disk glabrous. Ovary densely hairy. Cocci 4, but often only 1 ripening, tomentose, the valves more or less prominently transversely wrinkled (not seen quite ripe).

Hab.: Kin Kin and Walvi, *Francis and White.*

The only previously described *Melicope* from Queensland with constantly unifoliolate leaves is *M. Fareana* (F. v. M.) Engl. This is a tropical species and differs markedly from the plant now described

M. Fareana.—Flowers in axillary clusters on short peduncles; sepals and petals glabrous.

M. melanophloia.—Flowers in terminal or subterminal many-flowered panicles; sepals and petals woolly tomentose.

ACRONYCHIA, Forst.

A. melicopoides, *F. v. M.*, Fragm. v. 3 (1865).

Hab.: Rockingham Bay, *Dallachy*; Herberton, *J. F. Bailey*; Johnstone River, *Rev. N. Michael, H. G. Ladbrook.*

Var. **lasiantha,** *F. v. M.*, Fragm. vii. 145 (1871). Leaves pubescent beneath, branchlets, petioles, and inflorescence densely tomentose, petals woolly tomentose outside, leaves sometimes 1-foliolate, fruit white, 1½ in. diam.:—*A. melicopoides*, Scort., P.L.S.N.S.W. vol. 7, p. 218. *Melicope pubescens*, Bail., Bot. Bull. iii. p. 9; Queensl. Fl. p. 199; Queensl. Agric. Jl. vol. 26. p. 126; Comprehens. Cat. Queensl. Pl. fig. 59.

Hab.: Yandina and Blackall Range, *J. H. Simmonds*; Eumundi, *Bailey and Simmonds*; Kin Kin, *W. D. Francis*; Killarney, *J. Wedd*; Tambourine Mountain, *Scortechini, Simmonds, Longman, and White.*

MELICOPE MELANOPHLOIA.

A—Flowering branch.
B—Cocci (not quite ripe).
C—Petal, outer face.
D—Petal, inner face.
E—Stamen.

I had for some time suspected that *Melicope pubescens* was an *Acronychia* and most likely identical with Mueller's variety *lasiantha* of *A. melicopoides*. I forwarded part of the type specimens of *M. pubescens* to Prof. A. J. Ewart, for comparison with the material in the National Herbarium, Melbourne, and he writes (5–9–1917): "I have compared your specimens with Moore's from the Clarence River (N.S.W.) and they agree in every respect. The specimen from Tambourine Mountain collected by Scortechini is, as you suspect, only the variety of *A. melicopoides*."

Order OLACINEÆ (Icacinaceæ).

APODYTES, E. Mey.

A. brachystylis, *F. v. M.*, Fragm. ix. 149.

A tree, branchlets glabrous. Leaves glabrous, thin-chardaceous, ovate-lanceolate, shortly acuminate, 3-5 in. long, 1-1⅔ in. broad on a petiole of 6-8 lines. Cymes axillary, about as long as or shortly exceeding the petiole. Calyx minutely 5-denticulate. Petals 5, 1½ lines long, the outer face glabrous, the inner face with long white hairs in the middle of the lower portion. Stamens alternate with the petals; filaments linear, anthers erect, dorsifixed, bilobed at the base. Ovary glabrous; style short, excentric, slightly incurved; stigma oval, lateral. Fruit compressed, ovate, 3-6 lines long, 4 lines broad, prominently veined, crowned by the persistent style and bearing a scutelliform appendage.

Hab.: Rockingham Bay, *Dallachy*; Johnstone River, *Rev. N. Michael, H. G. Ladbrook.*

The fruit was previously unknown. It will be seen from the description that Mueller correctly referred this plant to *Apodytes* from flowering specimens only.

The tree described by F. M. Bailey under *Apodytes brachystylis* in 2nd. Add. 3rd. Suppl. Syn. Queensl. Fl. p. 107 (at back of Catalogue of Indig. and Nat. Pl. of Queensl. 1890), and in Queensl. Fl., p. 248, is quite a distinct plant.

J. F. Bailey (Queensl. Agric. Jl. v. 395) records *Apodytes brachystylis* as "common in the Evelyn scrubs." His specimens, however, are very fragmentary, consisting of a few fallen leaves and flowers, and do not represent the true *A. brachystylis* but remind one of *Villaresia* (*Chariessa*).

TYLECARPUS, Engl.

Calyx broadly cup-shaped, truncate, minutely denticulate. Petals 5, valvate. Stamens 5, filaments with long hairs in the upper part below the anther. Anthers dehiscing longitudinally. Disk none. Ovary 1-celled. Fruit elliptic, with an attached gibbosity usually longer, fleshier, and broader than itself. Trees with alternate simple leaves. Flowers dioecious or polygamous in lateral or axillary cymes.

APODYTES BRACHYSTYLIS.

A—Fruit.
B—Style.
C—Scutelliform appendage.
D—Calyx and pedicel.

T. australis, sp. nov.

Arbor, foliis glabris petiolatis lanceolatis vel oblanceolatis utrinque nitidis; inflorescentiis cymosis axillaribus ramulis tenuiter pubescentibus; floribus masculis ignotis; floribus femineis breviter pedicellatis; calyce late campanulato truncato minute 5-denticulato; petalis 5 apice minute apiculato; staminodiis 5 ad apicem utrinque pilis albis longis obsitis; ovario glabro; fructu dimidiato, hinc sicco, illinc carnoso (in sicco parte carnosa subevanida, parte sicca nitida valde nervosa).

A tree. Leaves alternate, lanceolate or oblanceolate, 3-5 in. (7·5-13 cm.) long, 1-1¾ in. (2·5-4·5 cm.) broad, coriaceous, both sides more or less glossy, tapering into a petiole of 2-4 lines (·5-1 cm.) Flowers unisexual in axillary cymes, the branches of the inflorescene thinly clothed with short appressed light-brown hairs. Male flowers unknown. Female flowers.—Calyx broadly cup-shaped, with 5 minute teeth. Petals 5, ovate, 1½ lines (4 mm.) long, inflexed and minutely apiculate at the apex. Staminodia 5, flat, covered with white hairs towards the top on both sides. Style short. Ovary glabrous. Fruit bluish green and glossy, about 1¼ in. (3·2 cm.) long, 6-8 lines broad, and bearing a fleshy gibbosity of a dirty-white or light-brown colour. Seed flat, lanceolate. (In the dried specimens the fruit is glossy, flat, and strongly veined, and the fleshy part dried into a thin fold of skin.)—*Apodytes brachystylis*, F. M. Bailey (non F. v. Mueller) 2nd Add. 3rd Suppl. Syn. Queensl. Fl. p. 107 (at end of Cat. Indig. & Nat. Pl. Queensland, 1890); Queensl. Fl. p. 248; Comprehens. Cat. Queens. Pl. fig. 75.

Hab.: Johnstone River, *Dr. T. L. Bancroft, Rev. N. Michael, H. G. Ladbrook.*

Bailey l.c. remarks that he was unable to find anthers in the only flower examined by him. From the Rev. N. Michael I have received a number of flowers preserved in spirits, but in no case could I find any trace of anthers, from which it must be inferred that the plant is dioecious or polygamous. Male flowers are as yet unknown, but I have little hesitation in referring the plant to the genus *Tylecarpus*.

Two other species of the genus have been described, viz., *T. papuanus* (Becc.) Engl. and *T. samoensis*, Reinecke.

Order CELASTRINEÆ.

SIPHONODON, Benth.

S. membranaceum, *Bail.* To the description in Queensland Flora, p. 262, add:—Calyx irregularly partite. Petals fleshy, almost orbicular, 2½ lines diam. Stamens about 1 line long, filaments flattened, 1 line long and almost as broad; anthers 2-celled, cells divergent. Disk thick, fleshy, lobed.

Hab.: Evelyn, *J. F. Bailey* (type); Johnstone River, *Rev. N. Michael* (flowers); Tringilburra Creek, *F. M. Bailey*; Barron River, *E. Cowley.*

TYLECARPUS AUSTRALIS.

A—Flowering shoot.

B—Petal, inner face.

C—Staminodia.

D—Fruit, side view.

E—Fruit, front view.

(A, D, and E natural size, B and C enlarged.)

Order SAXIFRAGEÆ.

POLYOSMA, Bl.

P. hirsuta, sp. nov.

Arbor, ramulis dense pubescèntibus ; foliis breviter petiolatis ovato-lanceolatis acuminatis marginibus remote dentatis vel raro integris ; foliis novellis utrinque pubescentibus ; foliis maturis supra glabrescentibus subtus prominente nervosis, nervis dense pubescentibus ; racemis terminalibus foliis brevioribus ; rhachide hirsuta ; floribus pedicellatis, pedicellis pubescentibus basi bracteatis ; calyce dense hirsuto ; corolla tenuiter pilosa ; bacca ovoideo-globosa, apice angusta.

A tree of medium size. Branchlets ferruginous-pubescent. Leaves petiolate, ovate-lanceolate, sharply acuminate and apiculate at the apex, the margins irregularly notched with a few distant teeth, sometimes entire, the upper surface clothed with brown hairs in the young state but becoming glabrescent with age, the nerves on the under surface prominent and densely pubescent, the surface of the blade pubescent in the young stage but becoming glabrescent with age, length $2\frac{1}{2}$-4 in. (6·3-10 cm.), breadth $\frac{3}{4}$-$1\frac{1}{2}$ in. (2-4 cm.), petiole densely pubescent, 3 lines (7 mm.) long. Racemes shorter than the leaves, rhachis densely pubescent. Flowers shortly pedicellate, with 2 linear bracts at the base of the pedicel. Pedicel hirsute, 1 line (2 mm.) long. Calyx hirsute, teeth linear. Corolla pilose, 3 lines (7 mm.) long. Fruit ovoid-globose, contracted at the top, 4 lines (9 mm.) diam.—*P. aliangacea*, Bail. Rep. Bot. Bellenden-Ker Exped. (1889), non F. v. M.

Hab.: Johnstone River, *Rev. N. Michael* (type); Harvey's Creek, *F. M. Bailey*.

The present plant differs from the previously described Queensland species in its densely pubescent character.

Order MYRTACEÆ.

XANTHOSTEMON, F. v. M.

X. pubescens, *C. T. White*, Proc. Roy. Soc. Ql. xxix. (1917) p. 57, fig. 13.

Arbor alta, ramulis inflorescentiis foliisque pubescentibus ; foliis petiolatis lanceolatis subtus tenuiter pubescentibus supra glabrescentibus, petiolis dense pubescentibus ; inflorescentiis cymosis terminalibus vel sub-terminalibus ; pedunculis pedicellisque dense pubescentibus ; calyce dense hirsuto, tubo campanulato, lobis triangulo-ovatis ; petalis dense tomentosis glanduloso-punctatis ; staminibus **numerosis ; ovario glabrescente ; capsula supera sub-globosa trivalva.**

A large tree, branchlets, inflorescence, and under surface of the leaves pubescent. Leaves lanceolate, average size $4\frac{1}{2}$ in. (11·5 cm.) long, $1\frac{1}{2}$ in. (3·8 cm.) wide, apex bluntish, base tapering into a petiole of about $\frac{3}{4}$ in. (2 cm.), under surface thinly pubescent, denser on the petioles and main nerves, upper surface glabrous or glabrescent with the exception of the midrib, which is more or less densely pubescent in the lower half. Flowers in terminal or subterminal pedunculate,

crowded cymes, peduncles up to 6 lines (1·4 cm.), peduncles, pedicels, and calyces densely beset with light-brown hairs. Calyx-tube broadly campanulate, 3 lines (7 mm.) diam., lobes triangular-ovate, 2 lines (4 mm.) long. Petals glandular-dotted, densely tomentose, shortly exceeding the calyx-lobes. Stamens numerous (apparently shorter than in *X. chrysanthus*, but not seen in a perfect condition). Ovary

POLYOSMA HIRSUTA.
A—Flowering shoot.
B—Fruit.
(Natural size.)

glabrescent. Capsule nearly globular, 6 lines (1·4 cm.) diam., 3-celled seated on the flattened and enlarged calyx-tube.—*X. chrysanthus*, J. F. Bailey, Queensl. Agric. Jl. v. 398 (non F. v. M.).

Hab.: Common at Mazlin's Creek, Herberton district, *J. F. Bailey*; Atherton district, *H. W. Mocatta*.

According to Mr. Mocatta, forest inspector, Atherton district, this tree is generally known as "Penda," a vernacular applied in Southern Queensland to *X. oppositifolius*, Bail.

Order **MELASTOMACEÆ.**

MENDINILLA, Gaud.

M. Balls-Headleyi, *F. v. M.* To the description in the Queensland Flora, p. 967, add :—Calyx and petals of a "bluish pink." Petals 5, 5-6 lines long. Stamens 10. filaments slender, anthers subulate, curved, connective bigibbous at the base, spur prominent rather long.

Hab. : Johnstone River, *H. G. Ladbrook, Rev. N. Michael.* I have recently received a number of specimens of this interesting plant. Those forwarded by Mr. Michael were in fruit only. Those forwarded by Mr. Ladbrook were in flower, and enable me to complete the description. He writes—"The petals are of a beautiful bluish pink ; the calyx also is so coloured ; the whole flower seems to be of a translucent wax hard to describe."

Order **STYRACACEÆ.**

SYMPLOCOS, Linn.

S. paucistamineus, *F. v. M. and Bail.* To the description in Queensland Flora, p. 967, add :—Fruit small, urceolate. 3 lines long, much contracted at the top.

Hab. : Johnstone River, *Rev. N. Michael.*

Order **SOLANACEÆ.**

SOLANUM, Linn.

S. largiflorum, *C. T. White,* Queensl. Agric. Jl. vol. 8. n.s. p. 170, pl. 22.

Fruticosum armatum tomentosum ; foliis petiolatis ovatis supra tenuiter stellato-pubescentibus subtus dense stellato-tomentosis marginibus sinuatis raro integris ; inflorescentiis cymosis, pedunculis axillaribus stellato-pubescentibus ; calyce profunde 5-fido, laciniis ovato-lanceolatis acuminatis extus tenuiter stellato-pubescentibus ; corolla alba sub-5-partita laciniis extus costa stellato-tomentosa ; bacca glabra globosa.

A large scrambling shrub, the branchlets and foliage densely villous with stellate hairs. Prickles not very numerous on the branches, very rare on the petioles and under surface of the leaves, and none on the inflorescence. Leaves petiolate, usually irregularly sinuate, rarely entire, oblique at the base, thinly covered on the upper surface with a stellate pubescence, densely stellate-tomentose on the under surface and petioles, broadly ovate, acuminate, length 3-5$\frac{1}{2}$ in. (7·5-14 cm.), breadth 2-3$\frac{3}{4}$ in. (5-9·5 cm.). Pedunceles axillary, once or twice forked, bearing numerous flowers on slender pedicels. Calyx thinly stellate-pubescent, at the time of flowering 1$\frac{1}{2}$ lines long, with acuminate teeth or lobes, somewhat enlarged in fruit and divided into ovate-lanceolate lobes. Corolla white, deeply lobed about $\frac{1}{2}$ in. (1·2 cm.) diam., lobes densely tomentose on the central portion outside. Fruit globular, glabrous, $\frac{1}{2}$-$\frac{3}{4}$ in. (1·2-2 cm.) diam.

Hab. : Kin Kin, *Francis and White* (type) ; Bundaberg, *J. Keys* ; Childers, *Dr. F. H. Kenny.*

The nearest ally of the present species and one with which it has been in the past confused is *S. Dallachii*, F. v. M. Its position among those described in the Queensland Flora is between *S. Dallachii* and *S. densevestitum*.

Prof. A. J. Ewart, who kindly compared specimens of *S. largiflorum* with Mueller's type specimens of *S. Dallachii* in the National Herbarium, Melbourne, wrote (22-6-17): "Seems hardly to agree with *S. Dallachii*. The calyx seems to be quite different in your specimen both as regards hairiness, shape, and size. The anther lobes also seem to be different in shape to *S. Dallachii*. Most of our specimens have the leaf with a smooth edge, but some have a sinuate margin, somewhat approaching that shown on your specimens. Most of the leaves of *S. Dallachii* are glabrous on the upper surface but not all. In other respects your specimen is close to *S. Dallachii*."

Order LAURINEÆ.

BEILSCHMIEDIA, F v. M.

B. Bancroftii (*Bail.*), *White* n. comb. A large tree. Leaves shortly petiolate, glabrous, lanceolate or ovate-lanceolate, bluntly acuminate, closely reticulate-veined on both sides, 4-5 in. long, 1-1½ in. broad, beset with minute appressed hairs. Perianth segments of almost equal length, ovate, connate towards the base. The six stamens of the first series somewhat shorter than the perianth segments, the three stamens of the second series still shorter; filaments brownish-lanuginous; staminodia 3. Pistil in staminate flowers narrow-conic, glabrous. Stigma minute. Fruit about 2 in. long with a diameter of 1½ in., pointed at the apex and tapering at the base; borne on a thickened pedicel of about ½ in.; epicarp usually rough and prominently lenticellate; endocarp hard, veined; cotyledons (kernel) white. In the fresh fruit the pericarp when cut emits a strong cinnamon odour.—*Cryptocarya Bancroftii*, Bail., Bull. No. 7. Dept. Agric. Brisbane (1891), p. 16; Queensl. Fl., p. 1302, plate 54, fig. 4; J. F. Bailey, Queensl. Agric. Jl. v. 401, pl. 142. *C. Bancroftii* (?) N. W. Jolly, Forestry Bulletin (Queensland) No. 1. p. 13, fig. 39 (description and photo-micrograph of wood). *Beilschmiedia lachnostemonea*, F. v. M., Vic. Nat. vol. ix. (1892) p. 11; Bail., Queensl. Fl. p. 1303.

Hab.: Johnstone River, *Dr. T. L. Bancroft, H. G. Ladbrook*; Russell River, *W. Sayer*; Barron River, *E. Cowley*; Bellenden-Ker Scrubs, *F. M. Bailey*; Evelyn (known as "Red Walnut"), *J. F. Bailey*; Atherton district (known as "Yellow Walnut"), *H. W. Mocatta*.

Cryptocarya Bancroftii, Bail., was described in 1891 from fruiting specimens only, and *Beilschmiedia lachnostemonea*, F. v. M., in 1892 from flowering specimens only. I feel quite convinced that the two are identical. *C. Bancrofti* has been recorded from several Northern

localities, whereas *B. lachnostemonea* had never apparently been collected again since it was originally obtained from the Russell River twenty-five years ago.

It is strange that the strong cinnamon odour of the fruit should not have been previously noted. A few years ago specimens of the fruit were forwarded from the Atherton district with the report that they were suspected of causing the death of pigs. On examination by the Agricultural Chemist (J. C. Brünnich) they yielded traces of saponin. At the time the identity of the fruit could not be determined; only the other day, however, I received specimens of leaves and fruit from Mr. H. G. Ladbrook, Innisfail, which enabled me to specifically determine this strongly aromatic Lauraceous fruit. My deductions as to the identity of *Cryptocarya Bancrofti* and *Beilschmiedia lachnostemonea* have been drawn from the similarity of the leaves.

Maiden (Forest. Fl. N.S.W., vol. 4, p. 95) remarks that the leaves of *Endiandra globosa*, Maid. & Betche, are the exact counterpart of those of *C. Bancroftii*; though similar, the leaves of the former are larger and much more strongly and differently veined to those of the latter.

Order PROTEACEÆ.

HELICIA, Lour.

H. diversifolia, sp. nov.

Arbor, ramulis novellis ferruginoso-pubescentibus; foliis diversis integris vel superne alte lobatis marginibus remote dentatis basi cuneato supra nitidis subtus ferruginoso-pubescentibus; racemis axillaribus densifloris (ca. 20 cm. longis); floribus geminatim pedicellatis, pedicello pubescente; petalis (perianthii segmentis) pubescentibus (1·7 cm. longis); fructu late ovoideo compresso.

A tree, the young branches ferruginous-pubescent. Leaves 7-10$\frac{3}{4}$ in. (18-27 cm.) long; 2$\frac{3}{4}$-5 in. (7-13 cm.) wide; on a petiole of 6-7 lines (1·3-1·5 cm.) very variable in shape, undivided and broadly lanceolate or deeply lobed in the upper portion with 1 or 2 lobes on either side, cuneate at the base, the margin sharply toothed with rather distant teeth; shining and dark green above, prominently and minutely reticulate, the under surface paler and ferruginous pubescent. Racemes axillary, rhachis about 8 in. (20 cm.) long, densely pubescent with reddish-brown hairs. Flowers in pairs; pedicels pubescent, 2 lines (4 mm.) long, forked at the top. Petals (perianth segments) pubescent, 8 lines (1·7 cm.) long. Hypogynous glands oblong, distinct. Fruit broadly ovoid, compressed, pointed at the top, 1$\frac{1}{4}$ in. (3·2 cm.) long.

Hab.: Atherton district, *H. W. Mocatta*. Received through the Director of Forests, Brisbane.

The present species differs markedly from any previously described from Queensland.

HELICIA DIVERSIFOLIA.
(Reduced.)
A—Leaf, upper surface.
B—Leaf, under surface.

Order THYMELEACEÆ.

PHALERIA, Jack.

P. clerodendron, *F. v. M.*, Fragm. Phytogr. viii. 9. To the description in Queensland Flora, p. 1371, add :—Fruit red, 2-seeded or 1-seeded by abortion, compressed globose or, when 1-seeded, ovoid-globose, 1-1¼ in. (2·5-3·3 cm.) diam., epicarp fleshy, flesh white not very thick, endocarp coriaceous ; seed about ⅓ in. (1·3 cm.) long.

Hab. : Johnstone River, *Rev. N. Michael, H. G. Ladbrook.* The specimens forwarded by Mr. Ladbrook were in fruit only ; those by Mr. Michael bore both flowers and fruit, and though his specimens were in full flower I could find no involucral bracts, but the short peduncle was much bracteate at the base.

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Contributions to the : Queensland Flora :

By C. T. WHITE

Government Botanist

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Contributions to the Queensland Flora.

Order TILIACEÆ.

ELÆOCARPUS, Linn.

E. longipetiolatus, sp. nov.

Arbor mediocris, ramulis glabris ; petiolis glabris ca. 4 cm. longis ; lamina glabra elliptico-lanceolata 10-12·5 cm. longa crenato-dentata ; racemis axillaribus fere ex axillis defoliatis 1·2-6·3 cm. longis ; pedicellis tenuiter sericeo-pubescentibus ca. 7 mm. longis ; sepalis sericeo-pubescentibus intus costa media valida instructis ; petalis in parte superiore lacianatis extus tenuiter pubescentibus intus pilis albis longis obsitis ; staminibus ca. 30 sericeo-pubescentibus, antheris linearibus longe aristatis ; ovario glabro ; fructu subgloboso.

A medium-sized tree, branchlets glabrous. Leaves glabrous, petiolate, elliptic-lanceolate, the apex bluntly acuminate, margins crenate with small rather distant teeth, petiole usually about $1\frac{1}{2}$ in. (3·8 cm.) long, lamina 4-5 in. (10-12·5 cm.) long, reticulations prominent but not so marked as in some of the allied species. Racemes axillary (in the specimens to hand always from where leaves have fallen), varying in length from $1\frac{1}{2}$-$2\frac{1}{2}$ in. (4-6·3 cm.). Pedicels thinly silky pubescent, 3 lines (7 mm.) long. Sepals silky pubescent, 4-5 lines (·9-1·1 cm.) long, with a prominent midrib on the inner face. Petals fringed about 5 lines (1·1 cm.) long, about 2 lines (4 mm.) wide in the widest part, outer face thinly pubescent ; inner face densely clothed with long white silky hairs. Stamens numerous, silky pubescent, 3 lines (7 mm.) long ; filaments short, anthers linear, tipped by a long subulate appendage. Ovary glabrous, style subulate. Drupe subglobose, 6 lines (1·3 cm.) diameter ; putamen rugose.

Hab. : Buddaboo Creek (Cairns District), *Rev. N. Michael.*

Amongst previously described species *E. longipetiolatus* approaches most closely to *E. Kirtonii*, F. v. M. ; it approaches it very closely in flower structure and by some might even be regarded as a variety, but it differs from that species in possessing leaves of thinner texture and much less prominently reticulate, in its larger flowers and globose fruit.

Order RUTACEÆ.

ZIERIA, Sm.

Z. Smithii, Andr.

Hab. : Brisbane River and Stradbroke Island are the only Queensland localities recorded in the "Flora Australiensis" and "Queensland Flora." It is a very common shrub in Southern Queensland, and the following selection of localities from specimens in the Queensland Herbarium show its range :—Tweed River and Macpherson Range, *C. T. White* ; Mount Glorious, *E. W. Bick* ; Kin Kin, *Francis and White* ; Woondum, *W. E. Moore* ; Mount Perry, *J. Keys.*

1—ELÆOCARPUS LONGIPETIOLATUS.

A—Leaf, upper surface.

B—Leaf, under surface.

Z. Smithii var. **parvifolia,** Benth.

Hab.: Tambourine Mountain, *F. M. Bailey, C. T. White*; Sandy Bay and Cape Harvey, *R. Brown*. According to Mueller, extends to Rockhampton and Rockingham Bay.

Z. Smithii var. **macrophylla,** Benth.

Hab.: Springbrook (Macpherson Range), *Young and White.*

Z. Smithii var. **furfuracea** (R. Br.), F. v. M.

Hab.: Doughboy Creek, *F. M. Bailey*; Belmont Scrub, *F. M. Bailey* (both near Brisbane); Kin Kin, *C. T. White.*

The Belmont specimens were referred by F. M. Bailey to *Z. granulata*, C. Moore, which can easily be distinguished by its narrow-linear leaflets; *Z. granulata* has not so far been collected in Queensland, and until authentic specimens are gathered it must be omitted from the Queensland flora.

Order MELIACEÆ.

FLINDERSIA, R. Br.

F. acuminata, sp. nov.

Arbor, ramulis novellis puberulis; foliis alternis longe petiolatis imparripinnatis 3-4 jugis, petiolo communi et rhachide stellato-puberulo, folioliis oblique lanceolatis vel ovato-lanceolatis longiuscule petiolulatis supra glabris subtus nervis pubescentibus vel glabrescentibus; paniculis dense stellato-vel lepidoto-puberulis multifloris; calyce dense puberulo; petalis intus glabris, dorso stellato-pubescentibus; filamentis complanatis; staminodiis complanatis; ovario dense hirsuto; **capsulis muricatis, seminibus ad utrinque extremitatem alatis.**

A large tree, branches lenticellate, younger ones puberulent. Leaves alternate, 7-9 foliolate, on a long petiole; leaflets oblique, lanceolate or ovate-lanceolate, the apex obtuse, long protracted, $2\frac{1}{2}$-3 in. (6·3-7·5 cm.) long; 7-12 lines (1·5-2·5 cm.) broad, on a petiolule of $1\frac{1}{2}$-2 lines (3-5 mm.). On the younger shoots the petiole, leaf rhachis, and petiolules are puberulent with scattered stellate scale-like hairs, and the main nerves on the under surface of the leaflet hairy with long simple and with stellate hairs, and a few scattered on the lamina, all becoming glabrescent with age. Panicles many-flowered, shorter than the leaves, densely scurfy-puberulent with stellate hairs. Calyx densely puberulent, sepals about $\frac{1}{2}$ line (1 mm.) long. Petals oblong $1\frac{1}{2}$ line (3 mm.) long, outer face clothed with scattered stellate hairs, inner face glabrous. Filaments flattened. Staminodia flattened, pointed, nearly as large as the filaments. Ovary densely hirsute, 5-lobed. Fruit densely muricate, about 5 in. (12·5 cm.) long; seeds winged at both ends including the wing about $2\frac{3}{4}$ in. (7 cm.) long and $\frac{3}{4}$ in. (2 cm.) broad.—*Flindersia* sp., N. W. Jolly, Forestry Bulletin No. 1 (Queensland), p. 7, pl. ii., fig. 12 (description and micro-photograph of wood); Forestry Bulletin No. 2 (Queensland), p. 15.

2—FLINDERSIA ACUMINATA.

A—Flowering branchlet.

B—Capsule.

C—Seed.

Hab.: Atherton Tableland, *H. W. Mocatta* (type); Upper Johnstone River, *C. T. White*; Innisfail, *Rev. N. Michael.*

A large timber tree generally known in Northern Queensland as "Putt's Pine" and sometimes as "Paddy King's Beech," but the timber usually sold under the name of "Silver Beech."

In general appearance it resembles very closely *F. Oxleyana*, F. v. M. In botanical sequence it comes between *F. Pimenteliana*, F. v. M., and *F. Bourjotiana*, F. v. M.

Order SAPINDACEÆ.

NEPHELIUM, Linn.

N. coriaceum, Benth. To the description in the "Queensland Flora," p. 30, add :—Flowers numerous in panicles as long as or exceeding the leaves, terminal or in the upper axils; the branchlets shortly pubescent. Calyx pubescent, 5-toothed. Petals white, small but exceeding the calyx lobes. Filaments in some flowers hairy and as long as the anthers, in others the anthers sessile or nearly so; anthers oblong, glabrous or with a few scattered hairs.

Hab.: A common small or medium-sized tree in south coastal Queensland. Some specific localities for it are—Tweed River, *J. L. Boorman* (ex Nat. Herb. N.S.W.); Burleigh Heads, *J. E. Young*; Nerang River, *C. T. White*; Brisbane River, *Ch. Fraser*; Moreton Bay, *F. M. Bailey*; Mooloolah Heads, *C. T. White.*

Order LEGUMINOSÆ.

CLITORIA, Linn.

C. australis, Benth. Fl. Austr. ii., 242.

Hab.: Cardwell, *Rev. N. Michael.*

F. M. Bailey in the "Queensland Flora," p. 421, says: "I have received from North Queensland fragments which likely belong to this plant." I am unable to find these imperfect specimens in the Queensland Herbarium collections, but have recently received an excellent flowering specimen from the Rev. N. Michael, collected at Cardwell; this greatly extends our knowledge of the range of what is apparently a rare plant and establishes it without doubt as a Queensland one. There is a large painting of *Clitoria australis* in the Ellis Rowan collection at the Queensland Museum; the standard of the flower is depicted as pale lavender, darker and streaked in the centre and the wing and keel petals as paler, almost white. It may, however, vary to a considerable extent as in the very abundant *C. ternatea.*

Order MYRTACEÆ.

MELALEUCA, Linn.

M. Irbyana, R. T. Baker, Proc. Linn. Soc. N.S.W., vol. xxxvii. (1912), p. 587, pl. lxiv. A small tree, glabrous, branchlets slender. Leaves small, alternate, ovate-lanceolate, acute or obtuse, imbricate and

almost appressed in the new growth, striate, usually about 1 line long. Flowers in compact or loose cylindrical spikes, mostly about 1 in. long. Calyx-tube cylindrical, about 1 line long, glabrous, lobes shorter than the tube. Petals twice as long as the calyx, lobes persistent. Staminal bundles 2 lines long, the claw scarcely exceeding the petals, each with numerous filaments. Fruiting calyx globular, about 2 lines in diameter.

Hab.: Tarampa, *F. M. Bailey*; Rosewood (collector ?); low swampy country between Jimboomba and Canungra, *C. T. White.*

We have had these specimens in the Queensland Herbarium for some years past. The Rosewood material bears no collector's name but the sheet bears the date of July 1879; the Tarampa specimens bear no date but must have been collected over forty years ago; the others were gathered in February 1912: they had been placed under *M. tamariscina*, Hook., but their identification with *M. Irbyana*, R. T. Baker, has been pointed out to me by Mr. J. H. Maiden. F. M. Bailey in the "Queensland Flora" quotes Mitchell's specimens from the Belyando River and adds, "and other localities in the south-west." I have looked through our Melaleuca material in the Queensland Herbarium but have not been able to find any of the true *M. tamariscina*, and apparently it has not been gathered since Mitchell collected the original material in 1846.

SYNCARPIA, Ten.

S. subargentea, sp. nov.

Arbor, foliis oppositis lanceolatis breviter petiolatis supra laete viridibus nitidis subtus argenteis (5-10 cm. longis 1-2 cm.. latis); pedunculis pubescentibus 4-9 mm. longis; capitulis parvis; calcyibus dense pubescentibus; tubis connatis, lobis angustis; staminibus 4 mm. longis, filamentis pubescentibus; ovario pubescente.

Var. latifolia, var. nov. Foliis latioribus (2-4 cm. latis) subtus pallidis vel subargenteis; pedunculis longioribus (1-2 cm. longis).

A small or medium-sized tree, the young parts densely rufous pubescent. Leaves opposite, rather numerous on the branchlets, lanceolate, upper surface dark shining green, under surface argentate, prominently and copiously glandular dotted, 2-4 in. (5-10 cm.) long, 4-10 lines (1-2 cm.) broad, tapering into a petiole of 3-5 lines (·6-1·1 cm.). Flowers small and numerous in dense globular heads; common peduncle densely pubescent, 2-4 lines (4-9 cm.) long; calyces densely pubescent, connate at the base, lobes narrow, scarcely 1 line (1½ mm.) long. Petals absent. Stamens 2 lines (4 mm.) long; filaments pubescent. Ovary and style pubescent; ovary 2-celled.

Hab.: Imbil, *F. H. Weatherhead.*

Var. latifolia. Leaves broader (¾-1½ in. broad), pale or subargentate beneath, peduncles longer (5-9 lines long).

Hab.: Imbil, *F. H. Weatherhead.* Both trees known locally as "Ironwood."

3—Syncarpia subargentea.

In general appearance *S. subargentea* resembles closely *S. leptopetala*, F. v. M., but is easily distinguished by the smaller, narrower leaves, argentate beneath, and by the shorter peduncles to the flower-heads; the variety *latifolia* resembles *S. leptopetala* still more closely in general appearance, but both can be at once distinguished from that species by the connate calyx lobes.

Maiden (Forest Flora N.S.W., vol. i., p. 17) has suggested that the genus *Syncarpia* so far as known be confined to the two species *S. laurifolia*, Ten., and *S. Hillii*, Bail., and proposed that *S. leptopetala* should be placed under *Metrosideros*. Now we have found another plant so closely allied in general appearance to *S. leptopetala* that the keeping of them apart in separate genera could perhaps hardly be allowed. The most natural system would probably be to follow Mueller and do away with the genus *Syncarpia*, placing all the species under *Metrosideros*. In the present case, however, for the sake of convenience, I have retained *Syncarpia* as containing several closely allied plants with the flowers in globular heads whether the calyx-tubes are united at the base or not, so that we have four species in Queensland—viz., *S. laurifolia*, *S. Hillii*, *S. subargentea*, and *S. leptopetala*.

Order ASCLEPIADEÆ.

TYLOPHORA, R. Br.

T. paniculata, R. Br. To the description in the "Queensland Flora," p. 1006, add:—Follicles gradually tapering into a long acuminate apex, 2½-3 in. long, 2-3 lines broad; seeds 4 lines long, 1 line broad, coma hairs, white, long.

Order FICOIDEÆ.

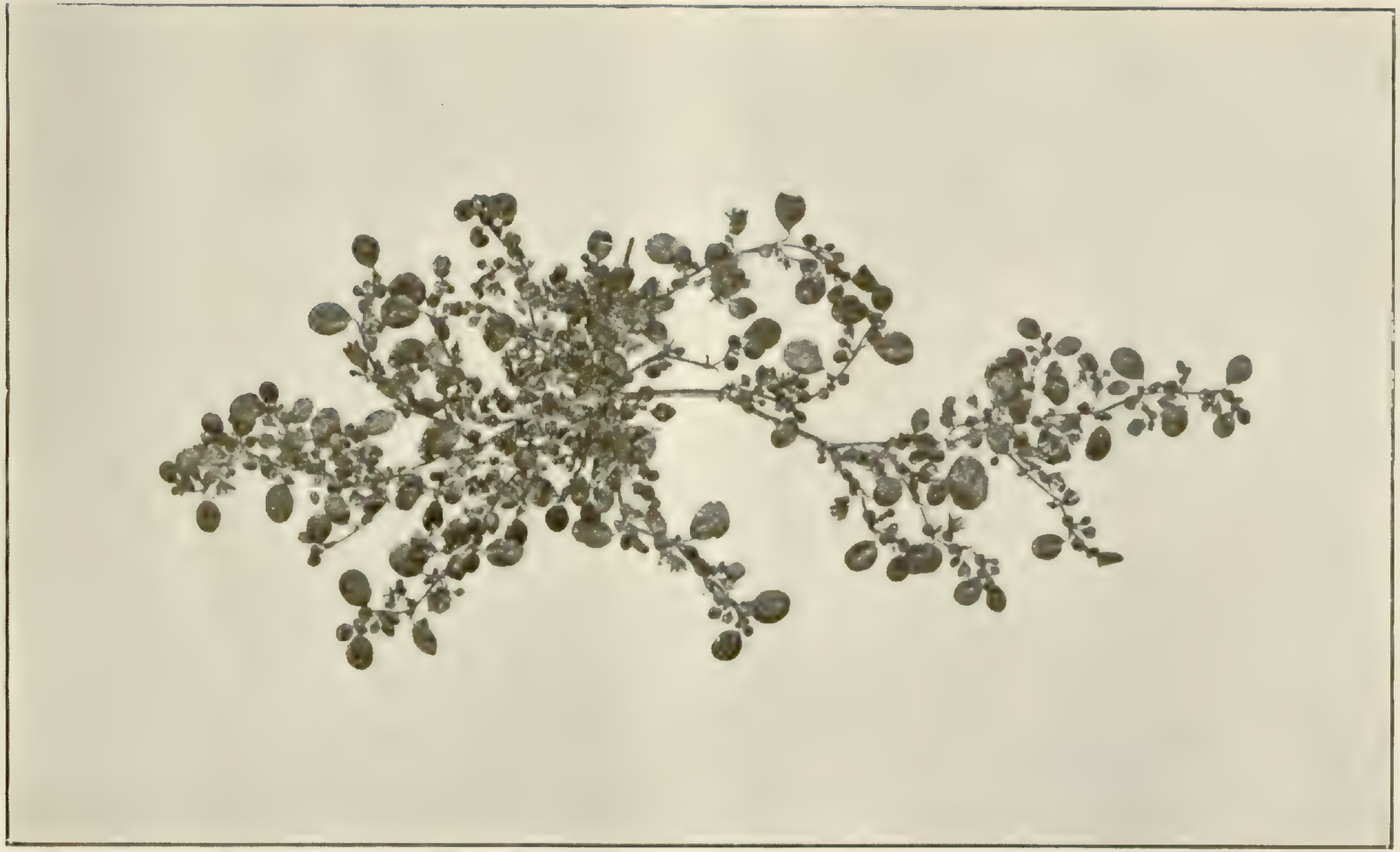
TRIANTHEMA, Linn.

T. compacta, sp. nov.

Herba parva glabra; foliis confertis petiolatis oppositis inaequalibus; floribus solitariis longiuscule pedicellatis; calyce profunde 5-fido (ca. 2. mm. longo); staminibus 5-7; capsula oblonga, seminibus nitidis nigris levibus.

A small glabrous plant, stems prostrate or ascending, much branched. Leaves crowded, opposite, the opposite ones very unequal, the larger ones petiolate, petiole dilated at the base, with scarious margins, oblong, ovate-oblong, or nearly orbicular, 2-3 lines (4-7 mm.) long with a cluster of smaller ones in the axil. Flowers pedicellate, pedicels 1 line (2 mm.) long; calyx about 1 line (2 mm.) long, 5-lobed lobes longer than the tube. Stamens 5-7. Capsule oblong, circumsciss below the middle, seeds black, smooth and shining.

Hab.: Mornington Island, *J. F. Bailey* (type); between the Gilbert and Norman Rivers, *T. Galliver*; Escott Station (*viâ* Burketown), *J. McIntyre*, who states—"Grows in the claypans in this locality and is not very common."



4—Trianthema compacta.

Among previously described species *T. compacta* approaches most closely to *T. oxycalyptra*, from which it differs in its smaller flowers, fewer stamens, and smooth not papillate seeds.

Through the kindness of Mr. J. H. Maiden I have been enabled to see a small piece collected between the Norman and Gilbert Rivers by Mr. T. Gulliver. This was referred by Mueller to *T. cypseleoides* from which, however, it differs in its flowers being pedicellate and solitary not in pedunculate cymes. In forwarding the specimens Mr. Maiden writes: "We have only a small specimen of *Trianthema cypseleoides*, one half of which is sent to you herewith, and is forwarded to you without prejudice. It seems to be nearer *Trianthema oxycalyptra* than the species named, but authentic specimens of the latter are required before a definite opinion can be given."

Until authentic specimens have been gathered *T. cypseleoides* must be omitted from the Queensland flora.

Order SAPOTACEÆ.

CHRYSOPHYLLUM, Linn.

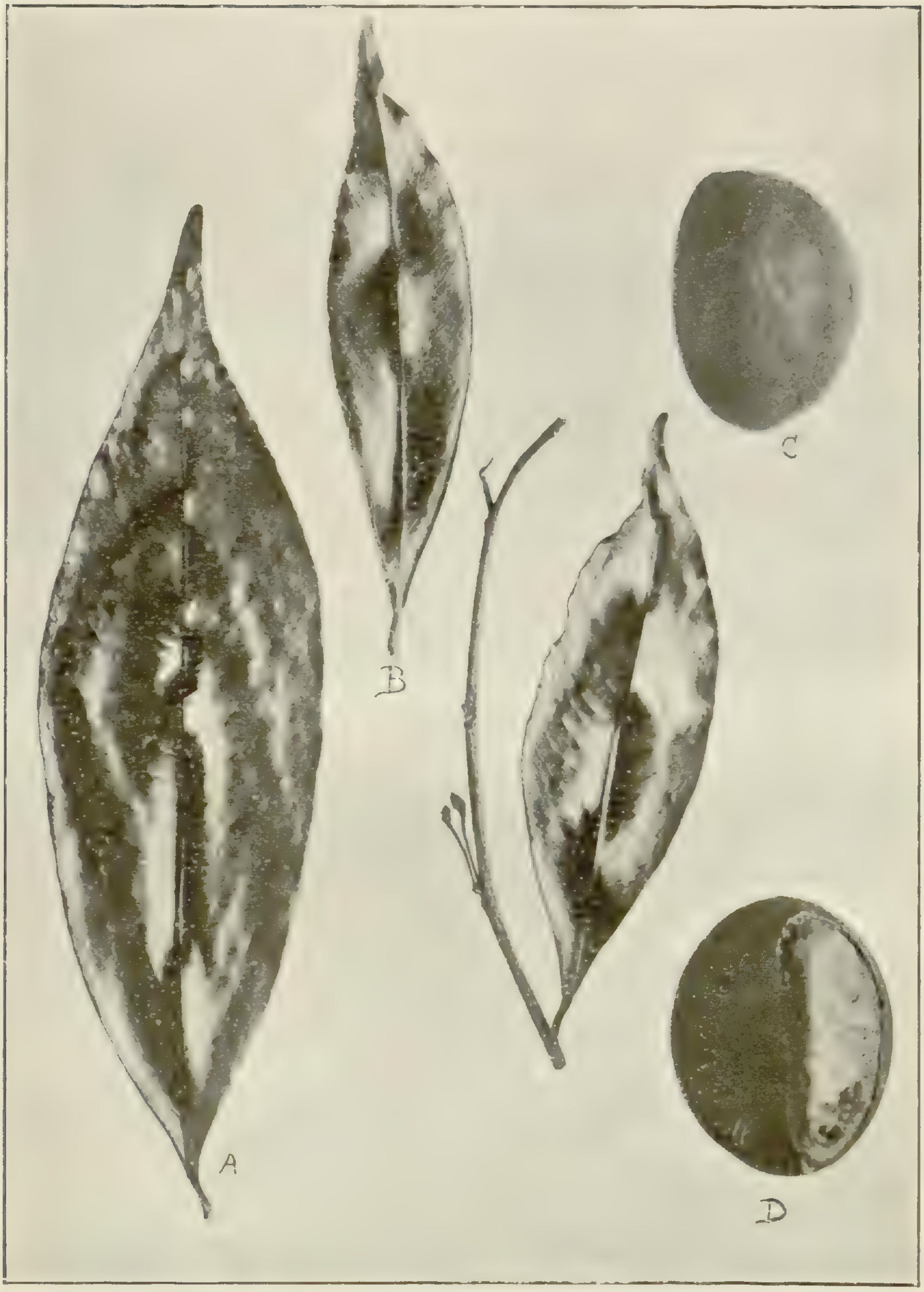
C. castanospermum, sp. nov.

Arbor, ramulis novellis rufo-puberulis; foliis glabris breviter petiolatis lanceolatis supra nitidis undulatis 9-15 cm. longis 2·5-4·5 cm. latis, petiolis ca. 7 mm. longis; pedicellis axillaribus glabrescentibus 1·3-1·8 cm. longis; calycibus 5-lobis, lobis pubescentibus oblongis; ovario pubescente mox glabro; fructu subgloboso ca. 5 cm. diametro, seminibus magnis atro-castaneis opacis ellipsoideis.

A medium-sized tree, branchlets lenticellate, glabrous except the young shoots which are fulvous pubescent. Leaves glabrous, lanceolate, shining above, apex tapering to a sharp point, margins undulate, $3\frac{1}{2}$-6 in. (9-15 cm.) long, 1-$1\frac{3}{4}$ in. (2·5-4·5 cm.) broad; the base tapering to a petiole of about 3 lines (7 mm.). Flowers on slender glabrescent pedicels of 6-8 lines (1·3-1·8 cm.). Calyx-lobes 5, pubescent, oblong. Corolla not seen. Pistil 7 lines (1·5 cm.) long; ovary pubescent with long hairs but soon glabrous; style glabrous. Fruit about 2 in. or more in diameter, bluish black, exocarp succulent, exuding a milky sap when cut; seeds 1 or more, dark chestnut colour, not shining, ellipsoid, when more than one in a fruit somewhat 3-sided by compression, about $1\frac{1}{2}$ in. (3·7 cm.) long and $1\frac{1}{4}$ in. (3 cm.) broad; hilum large, practically the whole length of the seed and nearly $\frac{3}{4}$ in. (2 cm.) wide.

Hab.: Upper Johnstone River, *C. T. White*; known locally as "Milky Plum."

When perfect flowers are available the present species may have to be taken out of the genus *Chrysophyllum*. It is very different in appearance from *C. pruniferum*, F. v. M.; Engler in the "Naturlichen Pflanzenfamilien" retains this latter species in Mueller's monotypic genus *Niemeyera*, in which he will I think be followed by most



5—Chrysophyllum castanospermum.

A—Leaf, upper surface.
B—Leaf, under surface.
C—Seed.
D—Do., showing large hilum.

systematists; thus should flowers prove that *C. castanospermum* is correctly placed generically, it will be the first true *Chrysophyllum* recorded from tropical Australia.

MIMUSOPS, Linn.

M. parvifolia, R. Br., Prod. 531; Benth., Fl. Austr. iv., 284; Bailey, Queensland Flora, p. 961; Comprehens. Cat. Queens. Pl., p. 306, fig. 283; *M. Kauki*, Britten (non Linn.). Illustrations Botany Cook's Voyage, vol. 2, p. 59, pl. 194; *Diospyros longipes*, Hiern in Britten's Journ. Bot., vol. 52 (1914), p. 338.

Distribution.—A common coastal tree in tropical Australia and New Guinea. The illustration in the "Botany of Cook's Voyage" is an excellent representation of *M. parvifolia*, and it seems strange how it and the description should have been referred by the editor to the other Australian species *M. Browniana*, Benth. (*M. Kauki* var. *Browniana*, A. DC.).

I have no hesitation in referring *Diospyros longipes*, Hiern, to *M. parvifolia*. The collector, Mr. Cambage, kindly forwarded a specimen from his material to the Queensland Herbarium, and I then pointed out to the late F. M. Bailey the similarity between it and *M. parvifolia*, and in such a common plant a certain amount of variation must be allowed; Mr. Bailey corresponded with Mr. Hiern but did not publish anything on the matter.

Order LAURINEÆ.

ENDIANDRA, R. Br.

E. compressa, sp. nov.

Arbor, ramulis glabris; foliis glabris coriaceis lanceolatis utrinque prominulo-reticulatis; panicula folio breviore minute puberula vel glabrescentibus; floribus pedicellatus parvis, perianthii tubo perbrevi, limbo aperto; fructu late ovoideo-compresso vel subgloboso-compresso.

A medium-sized or large tree: branchlets glabrous, dark-coloured. Leaves glabrous, coriaceous, lanceolate, prominently reticulate on both sides, 3-5½ in. (7·5-14 cm.) long, 1-1½ in. (2·5-4 cm.) broad, tapering at the base into a petiole of 4-6 lines (9-1·4 cm.). Panicles shorter than the leaves, branches thinly pubescent. Flowers small, pedicels thinly puberulous or glabrescent, about 1 line (2 mm.) long. Perianth-tube very short, the limb open, about 1 line (2 mm.) diameter. Perfect stamens 3, alternating with staminodia. Fruit bluish black, broadly ovoid or subglobose, compressed, about 2 in. (5 cm.) long; fruiting pedicels enlarged, 3-4 lines (7-9 mm.) long and about 1½ line (3 mm.) broad at the top.

Hab.: Imbil, *F. H. Weatherhead*; known locally as "Whitebark."

6—ENDIANDRA COMPRESSA.

A and B—Immature and mature fruit respectively.

In the shape of the fruit *E. compressa* approaches most closely to *E. tooram*, Bail., but differs markedly in foliage. In leaf and flower it approaches amongst Queensland species to *E. Sieberi*, Nees, and in botanical sequence should be placed next to that species.

E. pubens, Meissn. in DC. Prodr., xv., 1, 509; Benth. Fl. Austr., v. 302; Bail., Queens. Fl., 1306; Maid., For. Fl. N.S.W., iv., 130, pl. 146, and v. 186, pl. 189, fig. b; *Cryptocarya insignis*, Bail., Bull. 7, Dept. Agric. Brisbane (1891), p. 15; *Endiandra insignis*, Bail., Queens. Agric. Journ. i. (1897), 90; Queens. Fl., 1307, pl. 55, fig. 2; C. T. White, Queens. Nat. i., 207; J. Shirley, Proc. Austr. Assoc. Adv. Sc., xiii. (1912), p. 274; N. W. Jolly, Forestry Bulletin (Queensland) No. 1, p. 14, pl. v., fig. 42 (description and micro-photograph of wood).

Hab.: A common "scrub" tree in Northern and Southern Queensland.

I think there is no doubt that *E. insignis* should be included under *E. pubens*; the original descriptions show the differences to be merely in the larger leaves and fruits of the former. *E. pubens* is common in North-eastern New South Wales, and the fruit attains a large size, as shown by Maiden.

Order PROTEACEÆ.

HELICIA, Lour.

H. diversifolia, C. T. White.

This tree is fairly common in the rich "scrubs" (rain-forests) of the Upper Johnstone River. The fruit is bright blue in colour and compressed globose in shape when fresh, but when dried shows the pointed more or less ovoid shape described and figured in the last "Botany Bulletin"; as in some of other Proteaceous trees the seed is edible; the tree is known locally as "Grey Oak."

STENOCARPUS, R. Br.

S. angustifolius, sp. nov.

Arbor, ramulis novellis pubescentibus; foliis novellis pubescentibus mox glabris integris et anguste lanceolatis vel alte lobatis basi sensim petiolatis; pedunculis gracilibus pubescentibus 2-4 cm. longis 12-20-floris; pedicellis pubescentibus 9-13 mm. longis; perianthii segmentis pubescentibus ca. 7 mm. longis; ovario dense pubescente; folliculo 5-7·5 cm. longo subtoruloso, valvis extus valde nervosis.

A small tree, the young parts pubescent. Leaves mostly entire on the older and flowering shoots, pinnatisect with narrow lobes on the younger branchlets. Entire leaves varying considerably in size, usually

2-4 in. (5-10 cm.) long but occasionally as much as 7 in. (18 cm.), 1-3 lines (2-6 mm.) broad, narrow-lanceolate, straight or falcate, tapering into a short petiole, apex acuminate ; venation triplinerved but the veins usually indistinct. Peduncles pubescent, slender, $\frac{3}{4}$-$1\frac{1}{2}$ in. (2-4 cm.) long bearing an umbel of 12-20 flowers and sometimes one or two below the terminal umbel. Pedicels pubescent, 4-6 lines (9-13 mm.) long. Perianth segments pubescent, 3 lines (7 mm.) long. Stipes and ovary densely pubescent, style less so. Fruit 2-3 in. (5-7·5 cm.) long, subtorulose ; valves prominently veined on the outside. *S. Cunninghamii*, F. M. Bailey (non R. Br.), Queens. Agric. Journ., vol. xxii. (1909), p. 28 ; Comprehens. Cat. Queens. Pl., p. 455, fig. 452.

Hab. : Stannary Hills, *Dr. T. L. Bancroft.*

The above specimens were placed under *S. Cunninghamii* in the references above quoted. Through the kindness of Prof. A. J. Ewart I have been enabled to see a specimen of the true *S. Cunninghamii* from North-western Australia and it differs from *S. angustifolius* in its much broader leaves. Bentham says under *S. Cunninghamii* in the "Flora Australiensis," vol. v., p. 540 : "The ovary appears to be constantly quite glabrous." In the species now proposed it is densely pubescent.

S. reticulatus, sp. nov.

Arbor, ramulis novellis tenuiter pubescentibus mox glabris ; foliis novellis pubescentibus mox glaberrimus petiolatis integris utrinque reticulatis obovato-lanceolatis ; pedunculis tenuiter pubescentibus axillaribus 10-13-floris (2-2·5 cm. longis) ; pedicellis tenuiter pubescentibus (ca. 1 cm. longis) ; perianthii segmentiis extus tenuiter pubescentibus intus ad basem pilis albis longis obsitis ; ovario tenuiter pubescente.

A large tree, with the exception of the very young parts and the inflorescence glabrous. Branchlets rather stout. Leaves petiolate, entire, lanceolate or obovate-lanceolate, penniveined and prominently reticulate with rather large reticulations on both the upper and the lower surface ; glossy and dark green above, paler beneath, lamina **4-5$\frac{1}{2}$ in. (10-14 cm.) long, 2-2$\frac{1}{2}$ in. (5-6·3 cm.) wide** ; petiole $\frac{1}{2}$-$\frac{3}{4}$ in. (1·3-2 cm.) long. Peduncles axillary, thinly pubescent, $\frac{3}{4}$-1 in. (2-2·5 cm.) long, bearing an umbel of 10-13 flowers, pedicels thinly pubescent, about 5 lines (1 cm. long). Perianth segments 8-10 lines (1·7-2·2 cm.) long, thinly pubescent outside, the inner face with a dense tuft of long white hairs in the lower portion. Ovary thinly pubescent in the very young stage ; stipes clothed with long white hairs in the lower portion ; style glabrous, dilated into a broad flat disc at the top, stigmatic at the centre. Follicles not seen.

Hab. : Atherton Tableland, *H. W. Mocatta* ; known locally as "Cooril" or "Black Oak."

7—STENOCARPUS RETICULATUS.

Order THYMELÆACEÆ.

PHALERIA, Jack.

P. pedunculata, sp. nov.

Frutex, ramulis glabris lenticellatis ; foliis glabris breviter petiolatis ellipticolanceolatis saepe obliquis subtus reticulatis ; inflorescentiis pedunculatis ; pedunculis 1·3-2 cm. longis ad basi bracteatis ; bracteiis involucrantibus utrinque tomentosis praecipue ad extremitatibus ; perianthii tubo extus glabro 1·5-1·8 cm. longo, limbo quadrilobo, lobis 5 mm. longis utrinque tomentosis ad extremitatis.

A rambling shrub ; branchlets glabrous. Leaves glabrous, elliptic-lanceolate, often somewhat oblique, under surface prominently reticulate apex acute, $3\frac{1}{2}$-$4\frac{1}{2}$ in. (9-11·5 cm.) long ; $1\frac{1}{4}$-2 in. (3·2-5 cm.) wide on a petiole of 2-3 lines (5-7 mm.). Flower-heads terminal. Peduncles $\frac{1}{2}$-$\frac{3}{4}$ in. (1·3-2 cm.) long. bearing several small subulate bracts in the lower portion. Involucral bracts oblong or ovate, apex obtuse or slightly pointed, about 6 lines (1-3 cm.) long and 3 lines (7 mm.) broad. slightly tomentose on both faces especially towards the ends. Flowers numerous in the heads. Perianth-tube glabrous outside, 7-8 lines (1·5-1·8 cm.) long ; lobes 4, 2 lines (5 mm.) long. tomentose outside towards the end, inner face tomentose, densely so towards the end. Stamens exserted, exceeding the perianth-lobes.

Hab. : Yarrabah (Cairns District), *Rev. N. Michael.*

The nearest ally of the present species is *Phaleria Blumei* var *latifolia*, Benth., from which it differs in its smaller leaves and larger flowers.

P. Neumanni, F. v. M.

Hab. : Rockingham Bay, *Dallachy, Bailey* ; Herbert River, *Dallachy* ; Barron River, *E. Cowley* ; Yungaburra, *C. T. White.*

P. Chermsideana (Bail.), C. T. White, n. comb., *P. Neumanni*, Maid. and Betche (non F. v. M.), Proc. Linn. Soc. N.S.W., vol. 31, p. 738, and vol. 37, p. 249. *Leucosmia Chermsideana*, Bail., Queens. Agric. Journ., vol. xiv., pp. 35 and 264.

Hab. : Killarney, *J. Wedd* ; Beech Mont, *C. England.*

Differs from *P. Neumanni* in its much-branched habit, in its smaller leaves, less hoary tomentose flowers, the heads being both lateral and terminal, and in the involucral bracts. It is much more floriferous than *P. Neumanni*, and is described as a small elegant tree attaining a height of 20 feet : whereas that species is described as a bushy shrub, and my personal experience with it is as a few-flowered plant of 2-4 ft. Both species are figured in Bailey's "Comprehensive Catalogue of Queensland Plants."

8—Phaleria pedunculata.

Gilg in Engler and Prantl's "Naturlichen Pflanzenfamilien" includes *Leucosmia* under *Phaleria*, and is followed by most systematists. As since the publication of Bailey's "Queensland Flora" two additional species of *Phaleria* have been recorded, the following key to the Queensland species might replace that on p. 1370 of that work. The key is only provisional, for, as remarked by Bentham, the different species of the genus are very difficult to discriminate, and there are several species in the Queensland Herbarium represented by imperfect material which I am unable to satisfactorily determine :—

Flower-heads terminal.
  Perianth-tube glabrous.
    Leaves 4-7 in. long. Perianth-tube 5-6 lines long .. *P. Blumei.*
    Leaves 3½-4½ in. long. Perianth-tube 7-8 lines long .. *P. pedunculata.*
  Perianth-tube pubescent.
    Leaves 4-8 in. long. Perianth-tube 5-8 lines long .. *P. Neumanni.*
Flower-heads terminal and axillary.
  Perianth-tube pubescent.
    Leaves 2-3 in. long ; perianth-tube 4-5 lines long .. *P. Chermsideana.*
Flower-heads axillary or lateral.
  Perianth-tube glabrous.
    Leaves 6-8 in. long ; perianth-tube 1-1¼ in. long .. *P. clerodendron.*

Order CYCADACEÆ.

BOWENIA, Hook.

B. serrulata (André), Chamberlain, Bot. Gazette, liv. (1912), 419 ; *B. spectabilis*, F. v. M. (non Hook.), Fragm., viii. (1874), 279 ; *B. spectabilis*, Hook, f., var. *serrata*, André, iii. Hort. 26 (1879), 184, pl. 366 ; *B. spectabilis*, Hook. f., var. *serrata*, Bailey, Queens. Fl., 1507 (1902).

Hab. : This species, very common, and previously supposed to be confined to the Maryvale and Byfield region near Rockhampton, has recently been collected at Kuranda (Barron River), North Queensland, by Mr. J. E. Young. The only other species of the genus, *B. spectabilis*, Hook. f., is very common in North Queensland, Cooktown, Babinda, Innisfail, Atherton Tableland, and Upper Johnstone River, Rockingham Bay, &c.

Professor C. J. Chamberlain, who a few years ago visited Australia for the special purpose of studying our Cycadaceæ, recognises the plant previously known in Queensland under the name of *B. spectabilis* var. *serrata* as a distinct species under the name of *B. serrulata*, and gives the following distinctions between the two species :—

Subterranean stem more or less carrot-shaped, bearing 2-5 leaf and cone bearing branches at the top. Pinnules entire. *B. spectabilis.*

Subterranean stem sphærical or turnip-shaped, bearing 5-20 slender leaf and cone bearing branches at the top. Pinnules serrate. *B. serrulata.*

Order DIOSCORIDEÆ.

DIOSCOREA, Linn.

D. alata, Linn., Spec. Plant. (1753), p. 1003. A stout glabrous climber, stems variously angled or winged. Leaves orbicular to hastate-ovate, petiole stout, often winged. Male inflorescence narrowly paniculate, axillary. Female flowers in stiff spikes of 3-9 in. in length. Capsule (not seen ripe in the Queensland specimens) but described* as being " broader than long. 1-1½ in. diameter, very broadly obcordate, coriaceous; seeds orbicular, broadly winged all round."

Hab.: Near Innisfail (Johnstone River), *H. G. Ladbrook.*

Mr. I. H. Burkill, Director of Botanic Gardens, Singapore, to whom I am indebted for the identification, writes: " The Dioscorea is *D. alata.* Though this species is recorded as wild in the interior behind Darwin, I believe that it has not been obtained previously in Queensland."

The species is one that is generally cultivated throughout the tropics. There are many forms of it under cultivation, and a comprehensive account of the various races will be found in an article by Mr. Burkill in the " Gardens' Bulletin, Straits Settlements," vol. i. (1917), pp. 371-396.

Order FILICES.

GLEICHENIA, Sm.

G. lævigata, Hook., Spec. Fil., i., 10; Domin. Prod. Farnfl. Queens., 205; *G. flagellaris*, F. M. Bailey, Queens. Flora, vi., 1938; Lithogr. Ferns Queens., tab. 18; Maid. and Betche, Proc. Linn. Soc. N.S.W., xxxiv. (1909), 366 (non Spr.); Shirley, Proc. Austr. Assoc. Adv. Sc., xiii. (1912), 271.

Hab.: Macpherson Range, *Schneider and Tryon*; Nerang River, *H. Schneider*; Upper Tallebudgera, *Young and White.*

The inclusion of this fern in Bailey's " Queensland Flora " rested on sterile specimens collected on Macpherson Range by Messrs. Schneider and Tryon. When collecting recently on the slopes of the Macpherson Range at the head of Tallebudgera Creek with Mr. Young, I secured a large series of fertile fronds; Mr. Schneider's specimens are also spore-bearing, and Dr. Shirley in " The Flora of the Basaltic Tablelands of South-east Queensland," l.c., has recorded it as " the commonest fern on Springbrook but rarely seen on the other tablelands." It is strange that such a common New Guinea and Malayan fern has not as yet been collected in tropical Queensland.

It is now generally conceded that Sprengl's *G. flagellaris* is distinct from though closely allied to the common Malayan, New Guinea, and Australian *G. lævigata.*

* Hooker, Fl. Brit. India, vi., 296.

DRYOPTERIS, Adans.

D. albo-villosa, Watts, Proc. Linn. Soc. N.S.W., vol. 39 (1914), p. 77, pl. 88, fig. 8; *Aspidium tenericaule*, Bail. (non. Sw.), Queens. Agric. Journ., vol. 3, n.s., p. 168. Rhizome creeping, fairly stout. Stipes varying considerably in length according to the development of the frond—in specimens examined varying from ½-2 ft. (15-60 cm.); in the young fronds with scattered small brown scales for their whole length, the older ones with a few scattered very deciduous scales in the lower portion.

Hab.: Stony Creek (Cairns District), *Rev. W. W. Watts*; Burleigh Heads, *J. E. Young*.

Mr. Watts collected his original material in July 1913; Mr. Young first gathered specimens in December 1914; and recently Mr. Young and myself gathered a good supply of specimens from a small "scrub" of only a few acres in extent near Burleigh Heads, within five or six miles of the New South Wales border. It will probably be found in intermediate localities between the only two very distant ones at present known.

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By
C. T. WHITE, F.L.S., Government Botanist, *and* W. D. FRANCIS,
Assistant Botanist.

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Contributions to the Queensland Flora.

Order RUTACEÆ.

BORONIA, Sm.

B. ledifolia, J. Gay, var. **glabra,** Maid. & Betche, P.L.S. N.S.W., vol. 23 (1898), 773. Leaves simple, obovate-linear, about ½ in. long, under surface glabrous.

Hab.: Barakula, *J. E. Young*; Canal Creek (ex Queensland Herbarium without collector's name).

MELICOPE, Forst.

M. glabriflora, sp. nov.

Arbuscula, ramulis novellis puberulis mox glabris; foliis trifoliolatis petiolatis, foliolis submembranaceis lanceolatis vel ovato-lanceolatis supra glabris subtus nervis tenuiter pubescentibus, terminali longiuscule petiolulato, lateralibus inæquilateris breviter petiolulatis; paniculis axillaribus petiolo breviore; floribus parvis glabris, sepalis ovatis obtusis, petalis elliptico-oblongis, antheris cordato-ovatis, filamentis complanatis; carpidiis subglobosis, valvis intus transverse costatis et valde reticulatis, seminibus nigris nitidis ovatis.

A large shrub or small tree. Branchlets terete. Young growth, petioles, underside of midrib, and main nerves and branches of the inflorescence pubescent. Leaves trifoliolate, petiole 1½-4 in. (4-10 cm.) long. Leaflets thin in texture, lanceolate or ovate-lanceolate, obtusely acuminate, primary veins alone prominent, looping at some distance within the margin, 2½-4 in. (6·5-10 cm.) long; lateral leaflets oblique at the base, on petiolules of 1-2 lines (2-4 mm.), the terminal one narrowed into a much longer petiolule. Panicles axillary, much shorter than the petiole. Pedicels 1½-2 lines (3-4 mm.) long. Flowers small, glabrous in all parts. Sepals broadly ovate, obtuse. Petals elliptic-oblong, twice or thrice as long as the sepals, 1½-2 lines (3-4 mm.) long. Stamens 8, much shorter than the petals; anthers cordate-ovate; filaments flattened, dilated in lower part. Ovary 4-lobed. Style nearly 1 line (2 mm.) long. Fruit glabrous, cocci 4, but not all maturing, obliquely suborbicular; valves rather thin, crustaceous, very prominently transversely veined and reticulate on inner surface; endocarp chartaceous. Seeds black and shining, ovate, 3 lines (6 mm.) long.

Hab: Near Atherton, *C. T. White.*

Very similar in general appearance to *M. Broadbentiana*, Bail., but differs from that species in the midrib and lateral veins on the under surface of the leaf being clothed with rather long somewhat strigose hairs, and in the filaments being comparatively shorter and not hairy in the lower half.

MELICOPE GLABRIFLORA, sp. nov.

A—Branchlet. B—Terminal leaflet showing under surface. C—Panicle in axil of leaf. D—Fruiting branchlet; the epicarp has fallen away and the pale endocarp is seen. E—Seed.

In this and subsequent plates the scale is in inches and quarters of an inch.

ZANTHOXYLUM INERME, sp. nov.

ZANTHOXYLUM, Linn.

Z. inerme, sp. nov.

Arbor parva, ramulis inermis glabris lenticellatis; foliis petiolatis glabris vel petiolo minute puberulo trifoliolatis vel 1-2 foliolatis, foliolis ellipticis vel elliptico-lanceolatis obtusis obtuse acuminatis vel emarginatis utrinque nitidissimis marginibus crenulato-dentatis; floribus ignotis; paniculis terminalibus vel rarius axillaribus, ramulis puberulis; cocci subglobosis; semine subgloboso, testa nigra nitidissima.

A small tree, the panicle branches and often the petioles clothed with fine short hairs, otherwise quite glabrous. Branchlets unarmed, often marked by small, pale-coloured lenticels. Leaves usually trifoliolate, but often reduced to 1 or 2 leaflets. Petiole somewhat flattened above, from 1-8 lines (·2-1·7 cm.) long. Leaflets 1½-4 in. (4-10 cm.) long, elliptical or elliptic-lanceolate, obtuse or shortly and obtusely acuminate; margins faintly recurved, bearing a few obscure teeth; base shortly narrowed into a petiolule of 1-2 lines (2-4 mm.): both surfaces shining, slightly paler on the underside where also the primary veins and reticulations are slightly more prominent. Flowers not available. Fruiting panicles terminal or rarely axillary, as long as or shorter than the leaves. Pedicels slender, 1½-3 lines (3-6 mm.) long. Mature fruit consisting of 1, rarely 2, cocci. Cocci subglobose, opening in 2 valves to the middle, 2-3 lines (4-6 mm.) in diameter. Epicarp coriaceous, reddish brown. Seed only a little smaller than the coccus, black and shining.

Hab.: Near Atherton, *C. T. White* (type); a small tree common in the Atherton district, native name "Moolgan Moolgan," *J. F. Bailey*.

Easily distinguished from other Queensland species by its unarmed branchlets and fewer leaflets.

Order MELIACEÆ.

DYSOXYLUM, Blume.

D. densevestitum, sp. nov.

Arbor parva, ramulis dense pubescentibus lenticellatis; foliis alternis 7-9-jugis; foliolis oppositis vel suboppositis elliptico-oblongis, abrupte acuminatis brevissime petiolulatis supra nervo medio pubescente ceteroqui glabris; inflorescentiis racemosis e trunco ortis, rhachide puberulo, pedicellis pubescentibus; calyce pubescente late tubularo 3-vel rarius 2-lobis, lobis late ovatis vel suborbicularibus; petalis linearo-lanceolatis 4 vel rarius 5 extus inferne glabris superne hirsutis intus glabris; tubo staminео glabro vel glabrescente; antheris 8 vel 10: disco cupularo glabro vel glabrescente; ovario dense hirsuto 4-angulato, stylo inferiore parte hirsuto.

A small tree with a smooth bark (*Bailey*), the branchlets, petioles, and underside of leaves densely pubescent. Branchlets with a few dark-brown lenticels. Leaves alternate, 17 in.-2 ft. (43-61 cm.) long. Leaflets 7-9 pairs, mostly opposite or nearly so, 4-9 in. (10-23 cm.) long, 1½-3 in. (3·8-7·6 cm.) broad, elliptical-oblong, abruptly acuminate.

DYSOXYLUM DENSEVESTITUM, sp. nov.

rounded or scarcely tapering and often oblique at the base, on very short petiolules, glabrous above except the pubescent midrib, the midrib and the lateral parallel veins alone prominent on both surfaces. Inflorescence consisting of racemes in dense clusters on small protuberances of the barrel, the rhachis minutely pubescent or almost glabrous. Pedicels pubescent, 2-3 lines (4-6 mm.) long. Calyx densely and finely pubescent outside, 3-4 lines (6-8 mm.) long, broadly tubular, with 3 or rarely 2 broadly ovate or suborbicular lobes as long as or somewhat shorter than the united part. Petals 4, less frequently 5, linear-lanceolate, densely pubescent in the exterior upper part, almost glabrous below, somewhat thickened at the apex, 5-7 lines (10-15 mm.) long. Staminal tube glabrous or with a few minute hairs, 5-6 lines (10-12 mm.) long, the apex dissected into 8, less frequently 10, narrow teeth less than 1 line (2 mm.) long. Anthers oblong, sessile, alternating with the teeth of the staminal tube. Disk cupular, almost as long as the ovary, glabrous or nearly so both on the inside and outside. Ovary 4-angled and apparently 4-celled, densely hirsute as well as the lower half of the style. Style about 5 lines (10 mm.) long, glabrous in the upper half. Stigma discoid or hemispherical. *D. Schnifferi*, Bail., Rep. Bot. Bellenden-Ker Exped. (1889), non F. v. M.

Hab.: Harvey's Creek, *F. M. Bailey* (type); Johnstone River, *Rev. N. Michael.*

The Rev. N. Michael later forwarded fruits without leaves or flowers presumed to belong to this species. They are subglobose, obscurely 4-lobed, reddish brown in colour, glabrous but rather rough on the surface and $\frac{1}{2}$-$\frac{3}{4}$ in. in diameter. As they are practically identical with the fruits of another North Queensland species (undetermined) sent by Mr. Ladbrook from the Johnstone River, it has been considered inadvisable to include them in the description of the type.

In the structure of the flowers this species approaches *D. Schnifferi*, F. v. M., differing from it chiefly in the disposition of the inflorescence, number and size of leaflets, and in the character of the indumentum. In the two last-mentioned particulars the new species somewhat resembles *D. rufum*, Benth.

FLINDERSIA, R. Br.

F. lævicarpa, sp. nov.

Arbor, ramulis juvenilibus pubescentibus mox glabris lenticellatis; foliis oppositis 2-3 jugis pari-vel imparipinnatis; foliolis glabris coriaceis breviter petiolulatis oblique ovatis vel ovato-lanceolatis, acuminatis; floribus ignotis; capsulis parvis (ca. 2·5 cm. longis), valvis lævibus; seminibus ad utrinque extremitatem alatis.

A tree, glabrous except the very young growth which is silky-pubescent. Branchlets with a wrinkled bark and small irregular, red-coloured lenticels. Leaves opposite, on rather slender petioles of $\frac{3}{4}$-$1\frac{1}{4}$ in. (1·9-3·2 cm.), 2-3 jugate, with or without a terminal leaflet.

FLINDERSIA LÆVICARPA, sp. nov.

A—Valve of capsule, dorsal view.
B—Valve of capsule, lateral view.
C—Seed.

Leaflets coriaceous, 2½-4 in. (6·4-10·2 cm.) long, 1-1½ in. (2·5-3·8 cm.) broad, ovate or ovate-lanceolate, acuminate, oblique at the base and slightly decurrent, on a short petiole of 2-3 lines (4-6 mm.), paler on the underside, the midrib alone prominent on either surface ; oil-cells numerous. Flowers not available. Panicle apparently large, the branches glabrous or very thinly puberulent. Fruit separating to the base into 5 valves, valves without processes or tubercles on the dorsal surface which is dark-coloured and almost smooth, scarcely exceeding 1 in. (2·5 cm.) in length and 4½ lines (9 mm.) in breadth, texture relatively thin. Seeds light brown in colour, flat, elliptical-oblong, nearly 1 in. (2·5 cm.) long and 3 lines (6 mm.) broad, with a marginal, subhyaline wing which is narrow at the sides and extended at both extremities.

Hab. : Atherton District, *Assistant Forester J. M. Fraser.*

In natural sequence this species appears to come between *F. Pimenteliana*, F. v. M., and *F. Bourjotiana*, F. v. M., but without flowering specimens its exact position in the genus cannot be estimated. It differs principally from the other species of the genus in its small fruit without processes or tubercles on the dorsal surface of the valves.

Order SAPINDACEÆ.

HARPULLIA, Roxb.

H. frutescens, Bail.

Hab. : To the records in the " Queensland Flora " may be added :—Johnstone River, *Rev. N. Michael, Dr. T. L. Bancroft* ; Mourilyan, *W. Mugford* ; Herberton, *J. A. D. Rauft* ; Evelyn, *J. F. Bailey* ; Atherton Tableland, *E. W. Bick, C. T. White.*

H. alata, F. v. M. ; *H. frutescens,* C. T. White, Queens. Nat. i., 204 (non Bail.).

Typical *H. frutescens* apparently does not occur in Southern Queensland, nor likewise typical *H. alata* in Tropical Queensland.

H. rhyticarpa, sp. nov.

Frutex vel arbor parva, ramulis novellis ferrugineo-pubescentibus ; foliis petiolatis 8-12 foliolatis, petiolo communi inferne tereti superne anguste alato vel angulato, rhachide late alato ; paniculis elongatis gracillimis ferrugineo-pubescentibus ; calyce dense hirsuto ; staminibus 5-6 ; capsulæ valvis extus dense pubescentibus rhytidovenis.

A shrub or tree, the young shoots and inflorescence ferruginous-pubescent. Leaves alternate ; leaflets 8-12, elliptic-lanceolate, obtusely acuminate, tapering or decurrent at the base, sessile or nearly so, shining and reticulate on both surfaces, 3½-7½ in. (9-19 cm.) long, 1-2 in. (2·6-5·2 cm.) broad. Petiole angular or winged in the upper part or occasionally terete for its whole length, 3-5 in. (7·6-12·7 cm.) long, the rhachis winged between the insertions of the leaflets, especially towards the apex. Panicles ferruginous-pubescent, racemose, slender and elongated, sometimes 2 proceeding from the same axil, 2-8 in. (5-20·3

HARPULLIA RHYTICARPA, sp. nov.

cm.) long ; bracts subtending the very short branches of the panicle linear, 1-2 lines (2-4 mm.) long. Calyx densely hirsute. Stamens 5-6 in the buds available. Capsule 2-lobed. subtended by the persistent calyx-lobes, shortly stipitate, ferruginous-pubescent, the surface wrinkled or reticulate, mostly 2-celled with 1 or 2 seeds in each cell, about 7 lines (15 mm.) long and 12 lines (25 mm.) broad. Seeds dark and shining, more or less enveloped in a yellow arillus.

Hab. : Barnard's Spur, Bellenden-Ker Range, *F. M. Bailey* (type) ; Barron River, *E. Cowley*.

H. angustialata, sp. nov.

Frutex ramulis foliisque juvenilibus pubescentibus mox glabris ; foliis alternis petiolatis 8-10 foliolatis, petiolo communi teretibus rhachide angulato vel anguste alato, foliolis lanceolatis vel elliptico-lanceolatis utrinque nitidis et reticulatis ; paniculis elongatis gracillimis, sepalis dense pubescentibus ovatis, petalis glabris, staminibus 5 inæqualibus ; ovario dense pubescenti, capsulæ valvis extus dense pubescentibus.

A small rambling shrub (*Michael*). glabrous except the ferruginous-pubescent young shoots and inflorescence. Leaves alternate. Leaflets 8-10, lanceolate or elliptic-lanceolate, acute or acuminate, tapering or decurrent at the base and sessile or subsessile, margins entire, shining on both surfaces, the lateral nerves and reticulations prominent, slightly paler on the underside, 2-5 in. (5-13 cm.) long, $\frac{3}{4}$-$1\frac{1}{4}$ in. (1·9-3·2 cm.) broad, common petiole terete, 1-2 in. (2·5-5·1 cm.) long, rhachis narrowly winged or angular in the upper part. Panicles ferruginous-pubescent, very slender, in some specimens exceeding 1 ft. (30·5 cm.) in length, with rather distant alternate branches of 1 in. (2·5 cm.) or less bearing 2, 3, or more flowers and subtended by linear bracts of 2-3 lines (4-6 mm.). Flowers on pedicels of 2-3 lines (4-6 mm.) or less. Calyx densely pubescent and deeply divided into 5 persistent, imbricate, ovate lobes of 2-3 lines (4-6 mm.). Petals 5, glabrous, oblanceolate, recurved, not auriculate, 6 lines (13 mm.) long. Disk densely pubescent, sinuate. Stamens 5, glabrous, unequal in length, the three longer ones 4 lines (8 mm.) and the two shorter ones $2\frac{1}{2}$ lines (5 mm.) long : anthers ovate-oblong, basifixed, 1 line (2 mm.) or more in length. Ovary densely pubescent or hirsute, tapering into a short bipartite style. Capsule 1-$1\frac{1}{2}$ in. (2·5-3·8 cm.) broad, the valves densely pubescent outside, thinly and very sparsely pubescent within. Seeds 2 in each cell, subglobose or ovoid, $\frac{3}{8}$-$\frac{1}{2}$ in. (1-1·3 cm.) in diameter, more or less enveloped in a yellow arillus ; testa dark brown or almost black, shining.

Hab. : Yarrabah, *Rev. N. Michael.*

This species differs from *H. rhyticarpa* in its smaller leaflets, the terete petiole, and the much narrower wings of the leaf-rhachis.

H. Hillii, F. v. M. To the description in the "Queensland Flora" add :—Stamens in the male (or hermaphrodite) flowers, 5, unequal in length, one or two of the longest measuring $2\frac{1}{2}$-3 lines (5-6 mm.). Anthers lanceolate-oblong, 1 line (2 mm.) or more long, dorsifixed.

HARPULLIA ANGUSTIALATA, sp. nov.

Hab. : South Pine (near Brisbane), *W. Hill.*

With one exception all the specimens under this species in the Queensland Herbarium have the typical leaflets with very obtuse apices. Specimens without female flowers collected by Mr. E. W. Bick at Peeramon, Atherton Tableland, have larger and broader leaflets with acuminate apices and with the reticulations more prominent on both surfaces. The late Mr. James Keys collected specimens at Mount Perry which resemble those from Peeramon in the size and venation of the leaflets but have the typical obtuse apices. The Peeramon tree may prove to be worthy of varietal or specific distinction when female flowers and fruit become available.

To embrace the new species here described, the following key to the known Queensland species of *Harpullia* might be substituted for that on page 308 of Bailey's "Queensland Flora":—

Petiole broadly winged from the base or from near the base, as well as the rhachis, stamens 7 or 8.

Margins of leaflets mostly coarsely toothed, petals 4 lines long .. *H. alata.*

Margins of leaflets entire or nearly so, petals 6 lines long, recurved .. .. *H. frutescens.*

Petiole terete, at least in lower part, stamens 5 or 6.

Leaf rhachis broadly winged between the insertions of the leaflets, the upper part of the petiole also usually winged or occasionally angular .. .. *H. rhyticarpa.*

Petiole terete throughout, leaf rhachis angular or narrowly winged upwards .. .. *H. angustialata.*

Petiole and rhachis terete or slightly angular, but not winged.

Leaves very obtuse or emarginate, petals inauriculate, sepals persistent, stamens 5 or 6 .. .. *H. Hillii.*

Leaves bluntly acuminate, petals auricled near the base, sepals deciduous, stamens 5-7 .. .. *H. pendula.*

Order LEGUMINOSÆ.

DESMODIUM, Desv.

D. heterophyllum, DC. Prodr., ii., 334. Stem 1-2 ft. long, densely hirsute. Leaves trifoliate. Stipules with fine points, 1-2 lines long. Petiole very slender, pubescent, 3-6 lines long. Leaflets 3 10 lines long, the terminal one often larger and on a much longer petiolule than the lateral ones, elliptical, obovate or obovate-oblong, obtuse, the underside with long scattered hairs. Flowers axillary, solitary, geminate, or in loose racemes. Pedicels mostly very slender, 6-9 lines long. Calyx 1½ line long, deeply divided into very narrow lobes. Pod somewhat reticulate and slightly pubescent, 6-9 lines long, 1½ line broad.

Hab. : Cairns, *C. T. White.*

Distribution : India, Ceylon, China, and Philippines.

ALYSICARPUS, Neck.

A. bupleurifolius, DC. Prodr., ii., 352. A glabrous plant of 1-2 ft. with slender, ascending stems. Leaflets linear or narrow-lanceolate, 1-3 in. long. Racemes 3-8 in. long, flowers in 10-20 distant pairs. Pedicels very short. Calyx $\frac{1}{4}$ in., closely embracing the pod ; segments acute, ciliate on the margins, much longer than the tube. Pod 3-6 lines long, less than 1 line thick, minutely apiculate, the base narrowed into a short stipes. joints 3-6, approximately as long as broad, smooth and somewhat moniliform.

Hab. : Townsville and Magnetic Island, *C. T. White.* Proserpine, *Rev. N. Michael.*

Distribution : Tropical Asia, Philippines, Malaya, Mauritius, and Polynesia.

Order SAXIFRAGEÆ.

(CUNONIACEÆ.)

ACKAMA, A. Cunn.

A. quadrivalvis, sp. nov.

Arbor, ramulis glabris, foliis oppositis, glabris, petiolatis, imparipinnatis ; foliolis 5 vel raro 3, ovato-lanceolatis, obliquis, subtus inferne in axillis nervorum minute barbigeris, terminali longiuscule petiolulato, lateralibus breviter petiolulatis ; paniculis terminalibus vel axillaribus, folia æquantibus, ramulis dense pubescentibus ; floribus minutis, breviter pedicellatis ; calycibus ad basem pubescentibus, lobis ovatis ; petalis lanceolatis, lobo calycis æquantibus ; capsula 4- (raro 3- vel 5-) valvata ; seminibus pilis tenuibus longis obsitis.

A medium-sized tree, glabrous except the inflorescence. Leaves opposite, on rather slender petioles of $\frac{3}{4}$-$1\frac{1}{2}$ in. (1·9-3·8 cm.). Leaflets usually 5, ovate-lanceolate, acuminate, oblique and rounded or occasionally somewhat contracted at the base, the lateral ones on short petiolules of 1-2 lines (2-4 mm.) and the terminal ones on petiolules of 3-5 lines (6-10 mm.), margins serrulate with rather distant teeth, under surface with the lateral nerves and reticulations more prominent than above and with minute tufts of hair in the axils of the lateral nerves towards the base, $1\frac{1}{2}$-3 in. (3·9-7·8 cm.) long, $\frac{3}{4}$-$1\frac{1}{4}$ in. (2-3·2 cm.) broad. Panicles terminal or in the upper axils, densely ferruginous-pubescent, compound, broad, and mostly as long as or longer than the leaves. Flowers very small, on short pedicels of $\frac{1}{2}$ line (1 mm.) or less. Calyx pubescent at the base, deeply divided into 5 ovate lobes, the lobes about $\frac{1}{2}$ line (1 mm.) or less in length. Petals lanceolate, as long as or slightly exceeding the calyx-lobes. Stamens 1-$1\frac{1}{2}$ line (2-3 mm.) long, with minute cordate anthers and slender filaments. Disk crenate. Ovary pubescent, 4- or occasionally 3- or 5-lobed and with a corresponding number of cells and styles, the styles incurved in our specimens. Capsules $\frac{1}{2}$-$\frac{3}{4}$ line (1-1·5 mm.) long, with 4 or occasionally 3 or 5 valves which are tipped by the fine persistent styles. Seeds 1 or 2 in each cell, ovoid, enveloped in fine long hairs.

Hab. : Atherton District, *Assistant Forester J. M. Fraser* (type) ; Rockingham Bay, *Dallachy.*

The genus *Ackama* is a small one, consisting so far as known of five distinct species : two (*A. Muelleri* and *A. quadrivalvis*) from Australia, two (*A. Nymanii* and *A. papuana*) from New Guinea, and one (*A rosæfolia*) from New Zealand. The present species, from Northern Queensland, in general appearance shows some slight differences from *A. Muelleri*, Benth. (*A. paniculata*, Engl.), of N. S. Wales and Southern Queensland. The leaves on the whole are less serrate, the panicle branches thicker, and the capsules smaller and 4- (sometimes 3- or 5-) celled. The presence of a 3-4-celled ovary in the Rockingham Bay plant has already been drawn attention to by Pulle (in Lorentz Nova Guinea, viii., 640) but he does not even raise it to varietal rank. Recently we received through the Director of Forests, Brisbane, specimens of an *Ackama* in fruit only from the Atherton Tableland, showing almost a constantly 4-celled capsule ; through the kindness of Professor Ewart we were enabled to compare Dallachy's specimens from Rockingham Bay with the Atherton ones, and have little hesitation in placing them with the Atherton plant. Mr. E. H. F. Swain, Director of Forests, in answer to an inquiry as to the timber, states : "The wood shows generic similarity to but specific differences from my specimens of *Ackama Muelleri*, Benth., in grain, texture, rays and pores ; on the wood alone I should have no hesitation in saying that it was not *Ackama Muelleri*, Benth."

Order MYRTACEÆ.

AGONIS, DC.

A. lysicephala, F. v. M. & Bail., Occ. Pap. Q. Fl. No. 1.

Hab. : Lloyd's Bay, *Thos. A. Gulliver.*

A. Scortechiniana, F. v. M.

Hab. : Stradbroke Island, *F. M. Bailey. C. T. White* ; Beerwah, *C. T. White, W. D. Francis* ; Fraser Island, *W. R. Petrie.*

A. elliptica, sp. nov.

Fruticosa, ramulis novellis sericeo-pubescentibus, foliis demum glabris elliptico-lanceolatis vel rarius obovatis, uni- vel tri-nerviis brevissime petiolatis vel subsessilibus ; capitulis terminalibus densifloris, bracteis orbicularibus extus sericeo-tomentosis intus glabris ; calycis sericeo-tomentosis, tubo campanulato, lobis ovato-triangularibus ; petalis albis glabris orbicularibus breviter unguiculatis ; staminibus ca. 20 (?) ; capsulis late campanulatis vel cupularibus trilocularibus.

A dense shrub of 3-4 ft. in height, the young shoots and inflorescence densely pubescent or hirsute with white hairs. Branches covered with a rather rough bark which is often shed in thin strips. Leaves becoming glabrous with age, elliptical, elliptic-lanceolate, or occasionally somewhat obovate, acute or the shorter ones obtuse, narrowed at the base, shortly petiolate or subsessile, the midrib alone prominent in some specimens, two lateral nerves and a few obscure reticulate ones also visible in others, 5-12 lines (10-25 mm.) long, 2-3 lines (4-6 mm.) broad. Flower-heads terminal, the axis frequently growing out into a leaf-bearing shoot. Bracts subtending the flowers orbicular, concave, tomentose

Agonis elliptica, sp. nov.

outside, glabrous within, 1-2 lines (2-4 mm.) broad. Calyx tomentose outside; the tube campanulate, about 2 lines (4 mm.) long, scarcely produced above the ovary: the lobes subtriangular, tomentose on the inside from below the middle as well as outside, 1 line (2 mm.) or less long. Petals glabrous, white, orbicular, each on a short broad claw, 2 lines (4 mm.) broad. Stamens about 20 (?), filaments slender, less than 1 line (2 mm.) long, anthers minute, 2-lobed. Summit of the ovary glabrous, with three divergent protuberances marking the summits of the cells; ovary 3-celled; style slender, less than 1 line (2 mm.) long, with a small, broad, obscurely 3-lobed stigma. Fruit broadly campanulate or cupular, opening in 3 valves. Seeds narrow-oblong, brown, about $\frac{2}{3}$ line (1·3 mm.) long.

Hab.: Beerwah, *W. D. Francis* (flowering and fruiting specimens—type), *C. T. White.*

Var. **angustifolia,** var. nov.

Foliis anguste lanceolatis.

Leaves narrow-lanceolate, 7-12 lines (1·4-2·5 cm.) long, 1-2 lines (2-4 mm.) broad.

Hab.: Bribie Island, *W. D. Francis*; Stradbroke Island, *C. T. White.*

The present species approaches most closely to *A. Scortechiniana*. F. v. M., from which, however, it differs in its smaller, more glabrous leaves always tapering at the base. The two species grow side by side in the type locality, and a further difference lies in the fact that the flowering period of *A. Scortechiniana* is about a month or six weeks earlier than that of *A. elliptica*.

We also have specimens of an *Agonis* from Maroochy River (*F. M. Bailey*) and Stradbroke Island (*C. T. White*), but the specimens are imperfect and do not enable us to speak with certainty. They may represent an undescribed species or a well-marked variety of *A. Scortechiniana*.

A. longifolia, sp. nov.

Arbor, ramulis novellis sericeo-pubescentibus, foliis brevissime petiolatis anguste lanceolatis submembranaceis; capitulis 3-5 floris, terminalibus vel axillaribus, calycis puberulis, tubo late campanulato, lobis late subdeltoideis, petalis, glabris orbicularibus; staminibus ca. 30; ovario triloculari.

A tree, the young shoots minutely silky. Branchlets terete. Leaves very shortly petiolate, the under surface very thinly silky with minute appressed hairs, linear-lanceolate, often slightly oblique or subfalcate, narrowed at both extremities, apex acute and frequently mucronulate, thin in texture; venation consisting of one longitudinal vein on each side of the midrib besides a very fine intramarginal one which is rarely conspicuous in the upper portion of the leaf, with a reticulation of very fine oblique lateral veins between the longitudinal ones: $1\frac{1}{4}$-$2\frac{1}{2}$ in. (3·2-6·4 cm.) long, 2-3 lines (4-6 mm.) broad. Flowers subsessile in

AGONIS LONGIFOLIA, sp. nov.

very short spikes or heads of 3-5, the pubescent rhachis terminal or proceeding from the upper axils. Bracts and bracteoles deciduous. Calyx-tube puberulent, broadly campanulate, the upper free portion broad and spreading, about 1½ line (2 mm.) long; lobes very broad, subdeltoid, less than half the length of the tube. Petals glabrous, orbicular, scarcely exceeding 1 line (2 mm.) in diameter. Stamens 30 or more; filaments slender, under 1 line (2 mm.) long; anthers minute, orbicular. Ovary 3-celled, with a trilobed, slightly convex summit; style slender, about 1 line (2 mm.) long, with a capitate stigma. Seeds (immature ?) narrowly oblong, about ¼-line (·5 mm.) long. *Leptospermum abnorme*, Bail., in part (Catalogue of Queensland Woods, various editions, No. 166c).

Hab.: Endeavour River (collector ?).

The affinities of this species are with *A. abnormis*, from which it differs in its much larger leaves and its puberulent calyx-tube. A log in the collection of Queensland timbers in the Botanic Museum, Botanic Gardens, Brisbane, represents it as a tree about 1 ft. in diameter with a thin bark exfoliating in parchment-like flakes.

A. abnormis, n. comb.

A tall shrub or a small tree, the young shoots silky-pubescent. Barrel attaining 5 in. (12·7 cm.) in diameter. Bark rough and flake-like in the lower part of the barrel, very smooth upwards and greyish brown in colour, shed in thin parchment-like strips. Branchlets slender, the younger ones often marked with small glandular dots. Leaves linear-lanceolate, occasionally finely silky-pubescent especially on the under-side, acute or mucronulate, the midrib and frequently a longitudinal nerve on each side of it more or less prominent, ¾-1¾ in. (1·9-4·4 cm.) long, 1-2 lines (2-4 mm.) broad. Flowers subsessile, in terminal heads of 3-6, the short rhachis densely pubescent, with white hairs. Calyx-tube glabrous, campanulate, about 1½ line (3 mm.) long; calyx-lobes triangular, silky-pubescent on the inner side towards the apex, about half the length of the tube. Petals white, glabrous, orbicular or ovate, on short broad claws, about 1 line (2 mm.) broad. Stamens 20 or more; filaments slender, about ½ line (1 mm.) long; anthers reniform. Ovary 3-celled; style ½ line (1 mm.) long, with a capitate stigma. Capsule broadly campanulate, opening in 3 valves, about 1½ line (3 mm.) long. Seeds narrowly oblong, about ½ line (1 mm.) long.

Hab.: Stanthorpe, *F. M. Bailey*, *Rev. J. E. Tenison-Woods*; Stanthorpe District, *L. C. Ball*; Maryborough District, *J. E. Young*.

This species is transferred from *Leptospermum* to *Agonis*, as its capitate inflorescence and 3-celled fruit ally it to the Queensland species of *Agonis* rather than to those of *Leptospermum*. Its nearest ally among the Queensland species is *A. Luehmanni*, from which it is readily distinguished by its longer and much narrower leaves.

A. Luehmanni, n. comb.

A small tree, the young shoots silky-pubescent. Barrel attaining 3½ in. (8·9 cm.) in diameter; bark very smooth and thin, varying in colour from green (when young) to reddish brown (when old), shed in thin strips; wood finely grained and heavy. Branchlets terete, green or reddish brown in colour, smooth or slightly rough with the portions of thin unshed bark. Young leaves with finely ciliate margins. Mature leaves glabrous or frequently minutely pubescent at the base, elliptical, oblanceolate, or narrowly obovate, rounded or obtuse at the apex, subsessile, the midrib alone prominent in some cases, but more frequently one or two longitudinal nerves on each side of the midrib also prominent, ½-1¼ in. (1·3-3·2 cm.) long, 2½-4 lines (5-8 mm.) broad. Flowers subsessile in terminal heads of 3-6, the axis occasionally growing into a leafy shoot. Bracts ovate, concave, ciliate, almost 2 lines (4 mm.) long; bracteoles lanceolate, ciliate, about as long as the bracts. Calyx-tube turbinate, glabrous, about 2 lines long; lobes triangular, pubescent on both sides especially towards the apex, about half the length of the tube. Petals white, glabrous, orbicular or obovate, on short broad claws, about 2 lines (4 mm.) broad. Stamens about 30; filaments slender, less than 1 line (2 mm.) long; anthers ovate or orbicular. Ovary 3- very rarely 4-celled, summit slightly convex. Style nearly 1 line (2 mm.) long, with a capitate stigma. Capsule broadly turbinate, about 2 lines (4 mm.) in diameter, summit slightly convex, with 3 very rarely 4 valves. Seeds oblong or curved, less than ½ line (1 mm.) in length.

Hab.: Glasshouse Mountains, *F. M. Bailey* (Oct. 1884), *A. Meston* (1895), *C. T. White* (1909, 1910), *W. D. Francis* (flowering specimens, Feb. 1920).

Fruiting specimens only were available when the late F. M. Bailey placed this species under *Leptospermum*. After examining the recently collected flowering specimens, we decided to remove it to the genus *Agonis*. Excepting the somewhat arbitrary definition of the disposition of the stamens when 20 or more in number as "without any opposite the centre of the petals" (Benth., Fl. Aust. iii., 96) the characters of this species, such as the arrangement of the flowers in terminal heads and the 3-celled ovary, are almost entirely those of an *Agonis*. Its affinities are with *A. elliptica*, from which it is distinguished by its larger habit, smooth bark, more obtuse leaves, and glabrous calyx-tube. Specimens of this plant were evidently sent by F. M. Bailey to Baron von Mueller, as on the label of his specimens in the Queensland Herbarium collected in 1884 he has written "Baron Mueller thinks a form of *L. abnorme*." It is certainly very closely allied to *A. abnormis*, n. comb., from which it is distinguishable by the characters given in the key below.

KEY TO THE QUEENSLAND SPECIES OF AGONIS.

Stamens 10, flowers crowded in globose heads .. .. .. *A. lysicephala.*

Stamens 20 to 30.

Calyx-tube tomentose.

Leaves broad at the base and sessile .. .. .. *A. Scortechiniana.*

Leaves tapering at the base and shortly petiolate or subsessile .. .. *A. elliptica.*

Calyx-tube puberulent.

Leaves linear-lanceolate, 1¼-2½ in. long .. .. .. *A. longifolia.*

Calyx-tube glabrous.

Leaves linear-lanceolate, ¾-1¾ in. long .. .. .. *A. abnormis.*

Leaves elliptical or oblanceolate, ½-1¼ in. long .. .. .. *A. Luehmanni.*

KUNZEA, Reichb.

K. capitata, Reichb. Consp. 175.

A shrub with pubescent branchlets. Leaves erect, recurved in the upper part, obovate-oblong or linear-lanceolate, somewhat acute, concave, the midrib often conspicuous on the underside, 2-4 lines long. Flowers sessile in terminal heads, the bracts, bracteoles, and calyces tomentose with long soft hairs. Calyx-tube 1½-2 lines long, the lobes acuminate and shorter than the tube. Petals glabrous, pink, broadly ovate or orbicular, slightly exceeding the calyx-lobes, 1 line or less in length. Stamens numerous; filaments slender, pink, 2 lines long; anthers minute, orbicular. Style slender, 2½-3 lines long; stigma truncate. Ovary filling the lower part of the calyx-tube, 3-celled. Fruiting calyx sometimes lengthened to 3 lines. Seeds ovoid, incurved.

Hab.: Wallangarra, *L. C. Ball*; Thulimba, *Miss Clara Butler.*

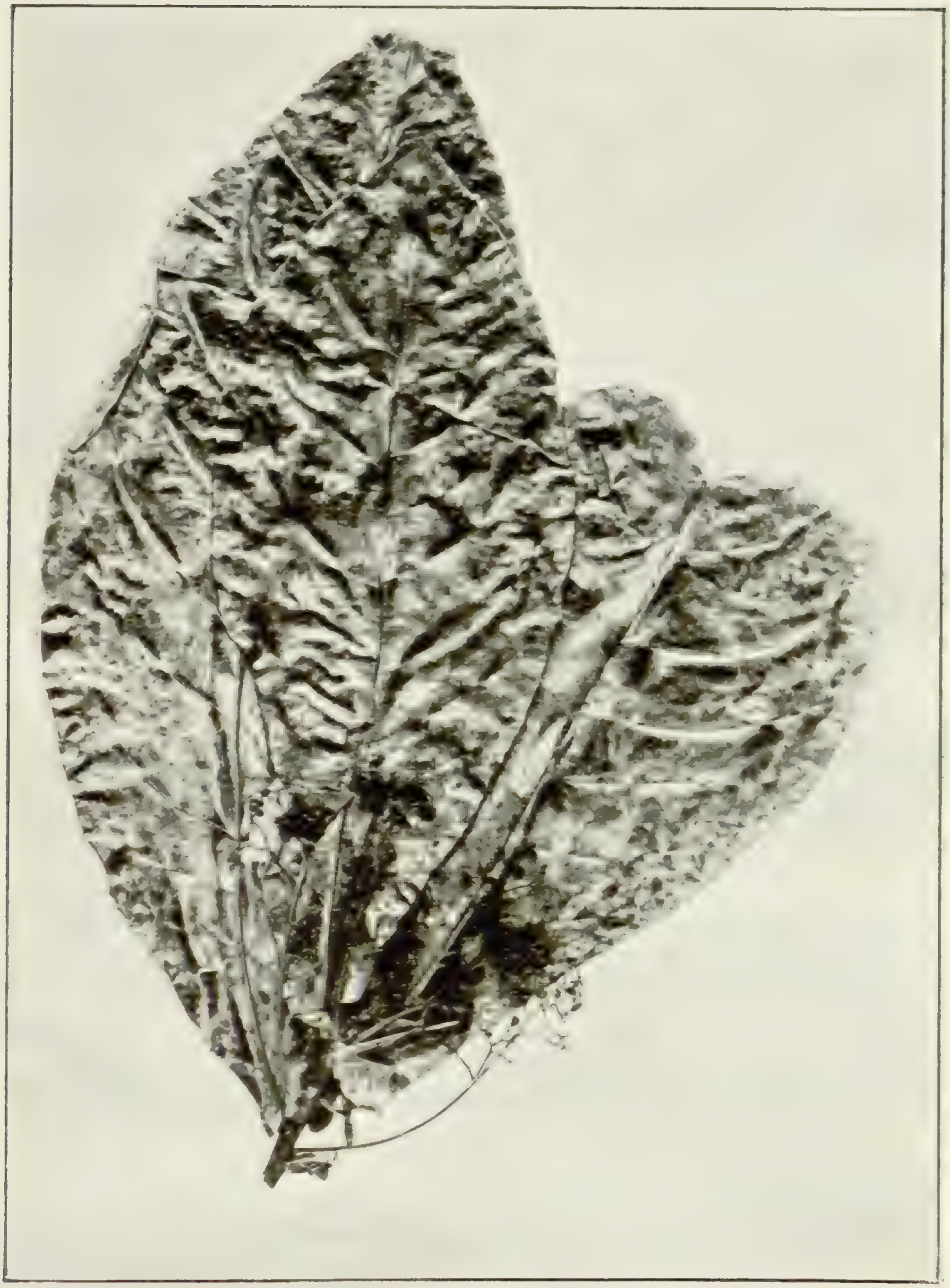
Distribution: New South Wales.

TRISTANIA, R. Br.

T. odorata, sp. nov.

Arbor parva, ramulis glabris validis; foliis subsessilibus magnis (ca. 30 cm. longis, 10-14 cm. latis), obovato-lanceolatis, obtusis vel obtuse acuminatis; inflorescentiis axillaribus paniculatis ramulis puberulis rhachide complanato vel angulato; floribus parvis, calycibus cupularibus vel hemisphæricis, 5-lobis, lobis late ovatis vel triangularibus; petalis 5, albis late obovatis breviter unguiculatis; staminibus pentadelphis multiseriatis, antheris late ovatis vel subglobosis; ovario 3-loculare; stylo brevissimo.

A small tree, glabrous except a minute pubescence on the rhachis of the inflorescence. Branchlets thick. Leaves subsessile, alternate, very large, attaining a length of 1 ft. (30.5 cm.) and 4-5½ in. (10-14 cm.) broad, obovate-lanceolate, the apex obtuse or shortly and obtusely acuminate, obtuse or cordate at the base, pale green in the dried specimens especially on the underside, texture chartaceous, lateral nerves and reticulation more prominent on the underside, the midrib tumid at its junction with the branchlet. Flowers small, in rather slender panicles, 3 in. (7·5 cm.) or more in length, in the upper axils, the main rhachis flattened or angular. Pedicels slender, 1-2 lines (2-4



TRISTANIA ODORATA, sp. nov.

mm.) long. Calyx cupular or hemispherical, 1-2 lines (2-4 mm.) in diameter, 5-lobed, the lobes deltoid or broadly ovate, less than half the length of the petals. Petals 5, 1-1½ line (2-3 mm.) long, broadly obovate, on short broad claws. Stamens shortly united in 5 bundles opposite the petals, the outer ones scarcely longer than the petals and 2-4 of the longest in each bundle with larger apparently sterile indehiscent anthers, the inner stamens much shorter with minute filaments at the base of the bundle and included in the calyx-tube or nearly so. Anthers broadly ovate or subglobose. Ovary 3-celled, filling the base of the calyx-tube and adnate to it, the summit slightly convex. Stigma on a short style or almost subsessile.

Hab. : Johnstone River, *H. G. Ladbrook.*

This species belongs to Bentham's section Eutristania, and differs markedly from other Australian species in its larger leaves and paniculate inflorescence.

In forwarding the specimens, Mr. Ladbrook remarks that the species is "a small tree, the flowers creamy white, with a rich almost allspice odour."

METROSIDEROS, Banks.

M. verticillata, sp. nov.

Arbor (?), ramulis glabris teretibus juvenilibus angularibus ; foliis glabris confertis subverticillatis oblanceolatis, venis obliquis prope marginem conjunctis utrinque prominule reticulatis ; inflorescentiis terminalibus cymosis bracteatis ; pedunculis complanatis vel angulatis (·8-1·6 cm. longis) ; pedicellis tenuis (·8-1·4 cm. longis) ; calycibus 5-lobis, tubo cupulare, lobis late ovatis vel triangularibus, **intus minute tomentosis ; petalis 5 minute tomentosis late ovatis vel suborbicularibus** sepala duplo longioribus ; staminibus numerosis elongatis tenuis (2-2·5 cm. longis) ; **ovario glabro obtuse trigono triloculare.**

A tree (?), glabrous except a minute pubescence on the calyx-lobes and petals, the young branchlets somewhat angular on account of the decurrent petioles. Leaves crowded, in false whorls of 3-5, paler on the underside, oblanceolate or linear-lanceolate, somewhat rounded and often slightly mucronate at the apex, gradually narrowed to the base and finely decurrent on the petiole to its base, 1½-3½ in. (4-9 cm.) long, 3-6 lines (6-12 mm.) broad ; lateral veins fine and numerous and reticulate between them, a fine intramarginal nerve very close to the edge. Flowers in terminal, bracteate, trichotomous cymes. Bracts varying in size, the larger ones very similar to the ordinary stem-leaves. Peduncles often clustered, somewhat flattened or angular, 4-8 lines (8-16 mm.) long. Pedicels slender, 4-7 lines (8-14 mm.) long. Calyx-tube cupular or hemispherical, 2-3 lines (4-6 mm.) in diameter, lobes 5, broadly ovate or triangular, 1-1½ line (2-3 mm.) long, minutely tomentose on the inner surface. Petals 5, minutely tomentose, broadly ovate or suborbicular, at least twice the length of the calyx-lobes. Stamens filiform, ¾ to nearly 1 in. (2-2·5 cm.) long ; anthers oblong, basifixed. Ovary enclosed in the calyx-tube, adnate by its broad

METRCSIDEROS VERTICILLATA, sp. nov.

base, obtusely trigonous and 3-celled ; style filiform, as long as or longer than the stamens, inserted in a central depression of the ovary.

Hab. : Bloomfield River, *Rev. W. Poland.*

RHODOMYRTUS, DC.

R. trineura, F. v. M.

Hab. : Whelanian Pools and Barnard's Spur, *F. M. Bailey* (Bellenden-Ker Expedition) ; Gould Island and Rockingham Bay, *Hill, Dallachy* ; Kuranda, *Rev. N. Michael.*

In F. M. Bailey's specimens from Barnard's Spur, and N. Michael's from Kuranda, the flowers are on pedicels attaining 7 lines in length. In some specimens collected at Rockingham Bay by Dallachy and labelled " var. *pedicellosa* " by F. v. Mueller, some examples of which we received from Professor Ewart, the flowers are similarly pedicellate. The varietal name apparently was not published by Mueller ; and when the species is better known it may be found to vary in the insertion of its flowers from subsessile to markedly pedicellate.

R. canescens, sp. nov.

Frutex, ramulis cano-pubescentibus, foliis supra glabris subtus cano-tomentosis petiolatis lanceolatis acute acuminatis triplinervis nervis lateralibus tenuibus margini approximatis, nervis secundariis pinnatis ; inflorescentiis axillaribus variabilis cymosis et 3-5 floris vel pedunculis unifloris, baccis globosis cano-tomentosis polyspermis 3- (falso 6-) locularibus.

A shrub, the branchlets, underside of leaves, rhachis of the inflorescence, and fruit covered with a fine, dense, hoary tomentum. Branchlets terete or flattened at the nodes. Leaves on petioles of 2-4 lines (4-8 mm.), triplinerved, the two lateral nerves often diverging from the midrib at some distance from each other, secondary parallel nerves and reticulate ones visible on the upper surface, the midrib, the two lateral nerves, and a few secondary nerves alone prominent on the underside, lanceolate or elliptical-lanceolate, acuminate and often finely mucronate, narrowed at the base, the upper surface glabrous, 2-3¼ in. (5-8 cm.) long, 8-12 lines (17-25 mm.) wide. Inflorescence axillary, very variable, flowers either solitary or in pairs in the axils of the leaves or in 3- rarely 5-flowered dichotomous cymes, the central flowers on pedicels much shorter than or as long as the lateral ones : peduncles slender and somewhat flattened, 6-11 lines (12-23 mm.) long, rarely reduced to 4 lines (8 mm.) : pedicels slender, 2-4 lines (4-8 mm.) long. Berry globose, crowned by the calyx-lobes, 2-3 lines (4-6 mm.) in diameter. Seeds numerous, arranged in 6 superposed series, flattened, obtusely trigonous or suborbicular, 1 line (2 mm.) or less in breadth. Persistent calyx-lobes 5, broadly ovate or suborbicular, 1-1½ line (2-3 mm.) long.

Hab. : Atherton, *C. T. White.*

Flowers not being available, the description of the inflorescence, length of peduncles, &c., has been drawn up from the fruiting inflorescence.

RHODOMYRTUS CANESCENS, sp. nov.

Order **COMPOSITÆ.**

HELICHRYSUM, Gærtn.

H. obovatum, DC. Prodr., vi., 180. Stems densely woolly-white, at least in the young stage. Leaves obovate, mucronate, petiolate, $\frac{1}{2}$-1 in. long, densely tomentose or glabrous on the underside. Flower-heads in loose, terminal, tomentose panicles. Involucre campanulate, nearly 2 lines long, densely covered with soft white hairs. Florets about 20. Achenes glabrous or with a few minute hairs.

Distribution : New South Wales.

Var. **longifolium,** var. nov.

Foliis longioribus, linearo-lanceolatis, ad 9 cm. longis.

Leaves linear-lanceolate, triplinerved, attaining $3\frac{1}{2}$ in. in length.

Hab. : Upper Tallebudgera Creek on the slopes of the Macpherson Range, *J. E. Young, C. T. White.*

The normal form has not so far been found in Queensland.

Order **ASCLEPIADEÆ.**

VINCETOXICUM, Moench.

V. ovatum, Benth., Fl. Aust., iv., 330. To the description in the "Queensland Flora," iii., 1000, add :—Follicles usually single, ovate, acuminate, 2-$2\frac{1}{2}$ in. (5·1-6·4 cm.) long. Seeds flat, ovate, with a very narrow border, 3 lines (6 mm.) long, coma about 10 lines (2·1 cm.) long.

Hab. : Beaudesert, *C. T. White.*

Order **LABIATÆ.**

OCIMUM, Linn.

O. basilicum, Linn.

An erect herb, glabrous or pubescent. Stems quadrangular or 4-sulcate in the upper part. Leaves on long petioles, ovate, dentate or entire, $1\frac{1}{2}$-2 in. (3·8-5·1 cm.) long. Bracts petiolate. Flowers mostly in whorls of 6 in terminal racemes. Pedicels as long as or rather shorter than the calyx. Fruiting calyx 3-4 lines (6-8 cm.) long, the uppermost lobe the shortest, broad and rounded ; two lowermost lobes the longest, narrow ; lateral lobes broader than the lowest ones. Corolla $\frac{1}{3}$-$\frac{1}{2}$ in. (8-12 mm.) long. Nutlets ovoid, dark brown or almost black, about 1 line (2 mm.) long.

Hab. : Hammond Island, *F. M. Bailey* ; Charters Towers, *C. F. Plant.*

Distribution : Tropical Africa, Asia, the Philippines, and New Guinea.

Order **LAURINEÆ.**

BEILSCHMIEDIA, Nees.

B. elliptica, sp. nov.

Arbor, ramulis glabris, lenticellatis, foliis ellipticis vel elliptico-lanceolatis, breviter petiolatis, utrinque glabris et reticulatis ; paniculis quam folia brevioribus,

BEILSCHMIEDIA ELLIPTICA, sp. nov.

terminalibus vel axillaribus, ramulis puberulis; perianthii segmentis puberulis, ovatis, tubo æquantibus; staminibus puberulis, antheris 2-locularibus, staminodiis 3, ovatis, acutis, fructu (immaturo ?) globoso.

A large tree often exceeding 100 ft. in height, glabrous except the inflorescence. Bark dark brown in colour, its surface rough with small warts, $\frac{1}{4}$-$\frac{1}{3}$ in. (6-8 mm.) thick. Sapwood pale or almost white, finely grained and tough. Branchlets terete, lenticellate. Leaves elliptical or elliptic-lanceolate, narrowed at the apex, occasionally very shortly and obtusely acuminate, or rarely obtuse, contracted at the base into a short petiole of 2-4 lines (4-8 mm.), upper surface shining, lateral nerves and reticulations prominent on both surfaces and slightly raised on the underside, $2\frac{1}{2}$-$4\frac{1}{2}$ in. (6·3-11·5 cm.) long, $\frac{3}{4}$-$1\frac{3}{4}$ in. (2-4·5 cm.) wide. Inflorescence puberulous with minute appressed brown hairs, terminal or in the upper axils, the panicles generally shorter than the leaves. Flowers 1-$1\frac{1}{4}$ line (2-2·5 mm.) long, on short pedicels of $\frac{1}{2}$-1 line (1-2 mm.). Perianth puberulous, lobes ovate, as long as or longer than the tube. The six stamens of the first series slightly shorter than the perianth segments; anthers 2-celled, filaments flattened and bisulcate on the inner surface, puberulous. Stamens of the inner series three, as long as or slightly shorter than those of the outer series, anthers broad, with lateral pores, filaments puberulous, the two glands at the base of each filament minute, ovoid and subsessile; the three staminodia ovate, acute, half the length of the inner stamens and on very short broad stipites. Ovary ovoid, tapering into a short stigma. Fruit (probably immature), globose, 3-4 lines (6-8 mm.) in diameter.

Hab.: Kin Kin (Wide Bay District), *White, Francis*; Fraser Island, *W. R. Petrie.*

Previously the genus was represented in Australia by two species only—namely, *B. obtusifolia* (F. v. M.), Benth., and *B. Bancroftii* (Bail.), C. T. White. The new species appears to be more closely allied to the latter, from which, however, it differs in the less acuminate leaves with somewhat coarser venation and in its stamens lacking the dense hairs described as characteristic of that species. From *B. obtusifolia* it is easily distinguished by its more coriaceous leaves with coarser venation and its fewer-flowered smaller panicles with less pubescent branches.

It may here be mentioned that in the generic description of *Beilschmiedia* in Bailey's "Queensland Flora" (Pt. IV., p. 1302) the phrase "lobes 5, subequal" as applied to the perianth is evidently an error, no doubt repeated from a similar description in Hooker's "Flora of British India," a work from which the author of the "Queensland Flora" largely drew. As in allied genera the number of the perianth segments is 6.

ENDIANDRA, R. Br.

E. longipedicellata, sp. nov.

Arbor, ramulis novellis dense pubescentibus, foliis ellipticis vel elliptico-lanceolatis, acuminatis vel raro obtusiusculis, supra glabris, subtus nervis in parte inferiore et sæpe lamina ad basem pubescentibus ; paniculis axillaribus folia fere æquantibus ramulis dense pubescentibus, longiusculis et tenuis ; pedicellis longiusculis (ad 11 mm. longis), bracteatis, bracteis 2, linearibus ; perianthii tubo anguste turbinato, pubescenti, segmentis late ovatis, obtusis, pubescentibus ; annulo ad basem segmentorum carnoso ; staminibus perfectis 3, glabris ; ovario ovoideo.

A tree, the young shoots, branchlets, and inflorescence pubescent with dense ferruginous hairs. Branchlets frequently flattened or somewhat 4-angled at the nodes. Leaves elliptical or elliptic-lanceolate, acuminate, or rarely almost obtuse, minutely reticulate on both surfaces, the midrib and lateral veins raised on the underside, shortly narrowed at the base into a petiole of 4-5 lines (8-10 mm.), 2-4 in. (5·1-10·2 cm.) long, 1-1¾ in. (2·5-4·5 cm.) broad ; upper surface glabrous, on the under surface the midrib and main nerves in the lower part and sometimes the lower part of the lamina ferruginous-pubescent. Panicles in the upper axils, almost as long as the leaves, branches rather long and slender. Pedicels slender, attaining 5 lines in length ; bracts about ¾ line (1·5 mm.) long, inserted near the middle and a slightly larger one a little below them. Perianth pubescent, turbinate, with a rather narrow tube, the lobes rather shorter than the tube and broadly ovate or orbicular and obtuse and about 1 line long. Stamens of the outer series reduced to a thick ring at the base of the perianth segments, very prominent and fleshy, its inner rim slightly crenate between the insertions of the three perfect stamens, which are glabrous and with anthers broader than long, shortly stipitate and protruding from the inner rim of the ring. Perianth-tube pubescent inside below the fleshy ring. Ovary ovoid, rounded or with a slight depression at the apex ; style very short and gland-like.

Hab. : Atherton District, *H. W. Mocatta.*

The prominent ring inside the flower at the base of the perianth segments connects this species with *E. glauca*, R. Br., and *E. hypotephra*, F. v. M., but the new species is readily distinguished from them by the non-glaucous underside of its leaves, its long bracteate pedicels, and narrow-turbinate perianth tube.

E. acuminata, sp. nov.

Arbor, ramulis novellis pubescentibus mox glabris ; foliis lanceolatis vel elliptico-lanceolatis, longe acuminatis, breviter petiolatis, utrinque glabris et minute reticulatis, subtus sæpe glaucescentibus ; paniculis axillaribus quam folia brevioribus, ramulis pubescentibus ; perianthii segmentis utrinque dense pubescentibus, ovatis obtusis ; staminibus perfectis 3, latissimis, ad apicem capitatis, glabris ; staminodiis 3, ad apicem glabris ; ovario ovato in parte superiore glabro.

A small or medium-sized tree (*Michael*), the young shoots and inflorescence ferruginous-pubescent. Branchlets terete or somewhat

ENDIANDRA LONGIPEDICELLATA, sp. nov.

A—Paniele showing two flowers; their pedicels, which are overlapping in the photograph, are distinct from the branch of the paniele.

ENDIANDRA ACUMINATA, sp. nov.

angular in the very young stage. Leaves lanceolate or elliptic-lanceolate, acuminate and frequently protracted into a very long point, finely reticulate on both surfaces, the upper surface green, the underside more or less glaucous and occasionally with a few short hairs on the raised midrib and lateral nerves, narrowed at the base into a petiole of 3-4 lines (6-8 mm.), 3-5½ in. (7·6-14 cm.) long, 1-2 in. (2·6-5·2 cm.) broad. Flowers in narrow axillary panicles less than half the length of the leaves. Rhachis slender. Pedicels 1-2 lines (2-4 mm.) long. Perianth pubescent externally and internally, divided to near the base into 6 ovate, obtuse, spreading lobes of 1-1¼ line (2-2·5 mm.). The three perfect stamens with thick capitate glabrous apices often broader than long, broad and pubescent in the lower part, each stamen with two broad glands attached at its base. Staminodia 3, thick and glabrous towards the apex, scarcely stipitate. Ovary ovate, glabrous in the upper part and tapering into a rather short style.

Hab. : Yarrabah, *Rev. N. Michael.*

In general appearance *E. acuminata* somewhat resembles *E. glauca*, R. Br., and *E. hypotephra*, F. v. M., but differs from both in the absence of the thick ring inside the perianth and at the base of its lobes. The absence of a prominent perianth-tube and its more acuminate leaves distinguish it from *E. glauca*, R. Br.; and from *E. hypotephra*, F. v. M., it is separated by its smaller flowers and glabrescent branchlets.

E. subtriplinervis, sp. nov.

Arbor, ramulis novellis pubescentibus mox glabris ; foliis petiolatis, ellipticis, breviter acuminatis vel obtusiusculis, sæpe subtriplinervis, utrinque glabris et minute reticulatis, supra nitidis, subtus raro subglaucescentibus ; paniculis axillaribus quam folia brevioribus, ramulis pubescentibus ; floribus pedicellatis ; perianthii segmentis pubescentibus, late ovatis vel suborbicularibus ; staminibus perfectis ad apicem capitatis, superne glabris, inferne pubescentibus ; staminodiis 3, ad apicem glabris ; ovario globoso glabro vel ad basem paucis pilis obsitis.

A tall slender tree (*Michael*), the very young shoots and inflorescence pubescent. Leaves elliptical, shortly acuminate or rarely obtuse, somewhat shining and finely reticulate on the upper surface, dull and occasionally faintly glaucous on the underside, 2, 3, or rarely 4 lateral veins on each side of the midrib or occasionally the oblique basal pair alone prominent, very shortly narrowed at the base into a petiole of 4-5 lines (8-10 mm.), 2-3½ in. (5·1-8·9 cm.) long, ¾-1½ in. (1·9-3·8 cm.) broad. Panicles in the upper axils, shorter than the leaves. Pedicels 1-2 lines (2-4 mm.) long. Perianth pubescent, deeply divided into broadly ovate or suborbicular lobes of 1-1½ line (2-3 mm.) in length, the united part shorter and almost flat. Stamens of the outer series entirely deficient. Perfect stamens 3, thick, broad, capitate, and glabrous at the apex, pubescent in the lower part, cells lateral. Glands 6, one attached on each side and at the base of the stamens, thick, ovate or broadly triangular, subsessile. The three staminodia alternating with the stamens broad and glabrous at the apex, pubescent in the lower part. Ovary glabrous or with a few hairs in the lower part,

ENDIANDRA SUBTRIPLINERVIS, sp. nov.

globose, tapering into a subulate style. Fruit ellipsoid, about 8 lines (17 mm.) long.

Hab. : Yarrabah, *Rev. N. Michael.*

In floral structure this species approaches *E. acuminata*, but the leaves are very different in the two species.

E. Palmerstoni, n. comb. To the description in the "Queensland Flora," p. 1302, add :—Inflorescence ferruginous-pubescent, paniculate, in the upper axils, often two panicles proceeding from the same axil, the panicles shorter than the leaves and with spreading branches. Pedicels $\frac{1}{2}$ to nearly 1 line (1-2 mm.) long, pubescent. Flowers 1-1$\frac{1}{2}$ line (2-3 mm.) in diameter. Perianth densely pubescent on the exterior and interior surfaces, the united part subhemispherical ; lobes rather thick in texture, ovate-lanceolate, slightly longer than the united part. Glands of the outer series 6, minute, alternating with the perianth segments. Stamens 3, clavate, with a few short hairs on their apices. Staminodia 3, minute, alternating with the stamens. Ovary shortly pubescent at the base, ovoid, tapering into a short, pointed stigma. *Cryptocarya Palmerstonii*, Bail., Botany Bull. ii., 16 ; Q'land Flora iv., 1302, plate liv., fig. 1 ; Comp. Catal. Q'land Plants, 430 ; J. F. Bailey, Q'land Agr. Journ., vol. v., 401, plate cxli. ; N. W. Jolly, Forestry Bull. No. 1, p. 13, plate v., fig. 40 (description and photomicrograph of wood) ; Forestry Bull. No. 2, p. 19 ; R. T. Baker, Hardwoods of Australia, p. 339, pl. iii. (description and coloured plate of wood).

Hab. : Russell River, *Bellenden-Ker Expedition* (1889) ; Herberton, *J. F. Bailey* ; Atherton, *H. W. Mocatta* (flowering specimens).

This species was provisionally placed under *Cryptocarya* by F. M. Bailey pending the receipt of flowering specimens. Recently Mr. Mocatta forwarded flowers and fruits of the tree, and an examination of the former showed that the species should be placed under *Endiandra*.

Order EUPHORBIACEÆ.

MACARANGA, Thou.

M. subdentata, Benth. To the description in the "Queensland Flora," p. 1451, add :—Male spikes in the upper axils or towards the ends of the branchlets, solitary or 2 together, slender, rather densely clothed with ferruginous, discoid, substellate scales, almost glabrous with age, 2-4 in. (5-10 cm.) long ; bracts adnate to the rhachis at their sides and forming small cupular receptacles enclosing the lower part of a cluster of 2 or 3 flowers, one or two of which are mostly sessile with a terminal flower on a very short pedicel ; flowers 1$\frac{1}{2}$ line (3 mm.) or less in diameter ; perianth 3- or 4-lobed ; anthers 4-lobed, on filaments shorter than the perianth segments.

Hab. : Kamerunga, *E. Cowley* ; Yarrabah, *Rev. N. Michael* ; Johnstone River, *Rev. N. Michael* ; Yungaburra, *C. T. White.*

The Rev. N. Michael's specimens from the Johnstone River bear male and female inflorescences on the same shoot.

By Authority: Anthony James Cumming, Government Printer, Brisbane.